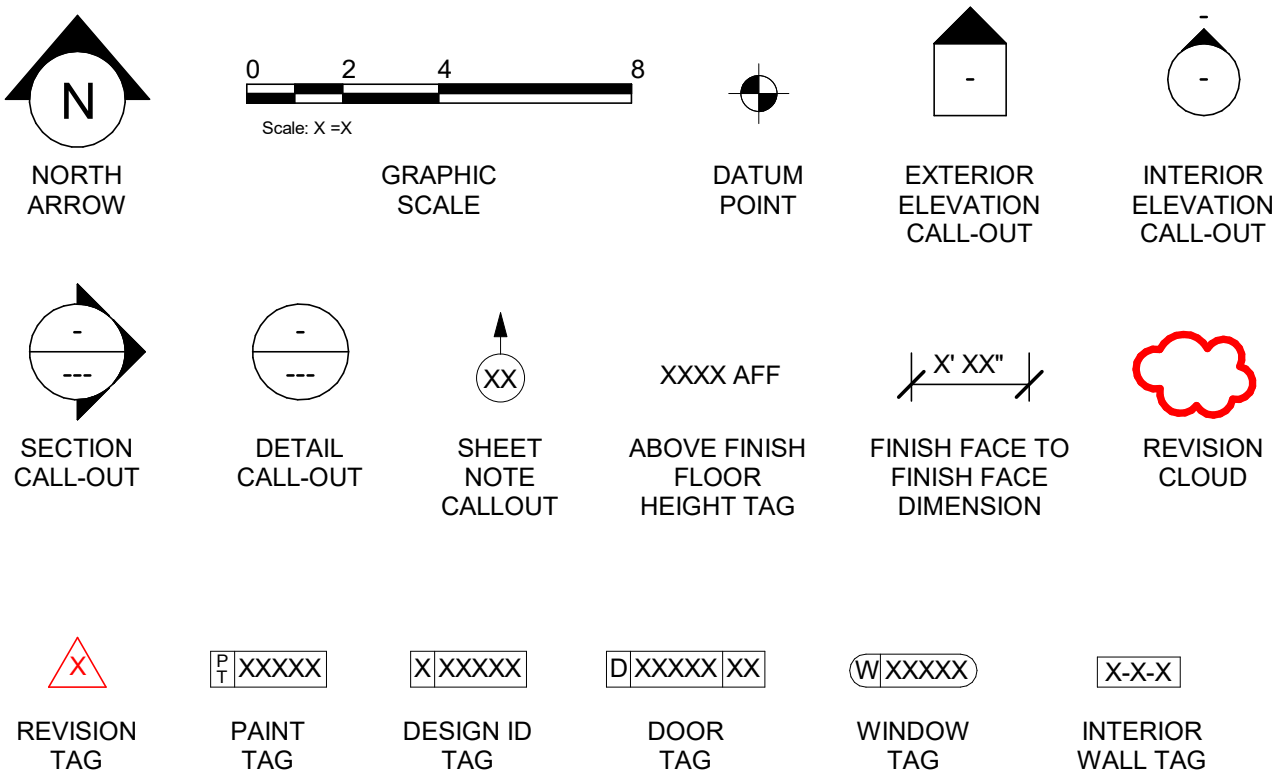


ABBREVIATIONS

A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
ARCH	ARCHITECT
BOH	BACK OF HOUSE
CAB	CABINET
CL	CENTER LINE
CLG	CEILING
CM	STARBUCKS
CM	CONSTRUCTION MANAGER
CTR	CENTER
CX	COMMISSIONING
CXA	COMMISSIONING AGENT
DEG	DEGREE
DET	DETAIL
DIA	DIAMETER
DM	DIMENSION
DM	STARBUCKS
DM	DESIGN MANAGER
DN	DOWN
EA	EACH
EL	ELEVATION
EQ	EQUAL
EXIST	EXISTING
EXT	EXTERIOR
FF&E	FURNITURE, FIXTURE, AND EQUIPMENT
FLR	FLOOR
FOH	FRONT OF HOUSE
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER, INSTALLED BY OWNER
FT	FOOT/FEET
G	GROUND
GC	GENERAL CONTRACTOR
GWB	GYPSUM WALLBOARD
HC	HOLLOW CORE
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
I.D.	INSIDE DIAMETER
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LL	LANDLORD
LV	LOW VOLTAGE
MAX	MAXIMUM
MEP	"MECHANICAL, ELECTRICAL AND PLUMBING"
MFR	MANUFACTURER
MIN	MINIMUM
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
O.D.	OUTSIDE DIAMETER
PIR	PASSIVE INFRARED SENSOR
PLC	PLACE
R	RADIUS
REF	REFERENCE
REQ'D	REQUIRED
REV	REVISION
RND	ROUND
SB	STARBUCKS
SC	SOLID CORE
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
TEMP	TEMPORARY
TYP	TYPICAL
UC	UNDER COUNTER
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD

ARCHITECTURAL SYMBOL LEGEND



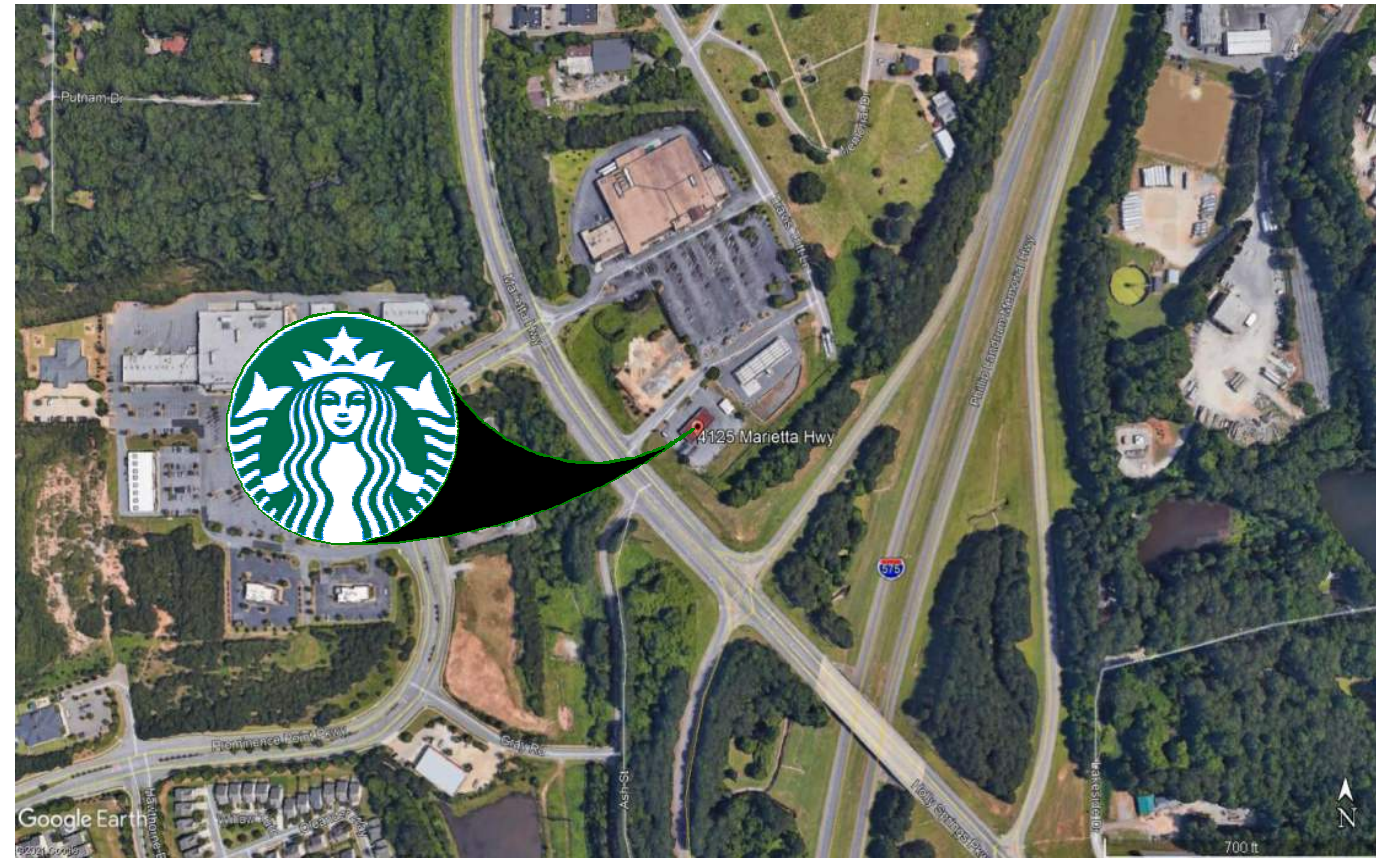
PROJECT CONTACTS

LANDLORD:	CAPITAL GROWTH BUCHALTER KIRK FARRELLY, P.E. 361 SUMMIT BOULEVARD, SUITE 110 BIRMINGHAM, AL 35243 PHONE: 205-263-4589
ARCHITECT OF RECORD:	GPD GROUP PROFESSIONAL CORPORATION 520 SOUTH MAIN STREET, SUITE 2531 AKRON, OH 44311 PHONE: (330) 572-2100 FAX: (330) 572-2101
ENGINEERS OF RECORD:	GPD GROUP PROFESSIONAL CORPORATION 520 SOUTH MAIN STREET, SUITE 2531 AKRON, OH 44311 PHONE: (330) 572-2100 FAX: (330) 572-2101
CIVIL ENGINEER:	HAYES JAMES & ASSOCIATES RYAN REMILLARD 4145 SHACKLEFORD ROAD, SUITE 300 ATLANTA, GA 30346 PHONE: (770) 923-1600 FAX: (770) 923-4202

INDEX OF SHEETS

LEGEND: X - SHEET ISSUED R - SHEET ISSUED FOR REFERENCE AND COORDINATION ONLY SEE TITLEBLOCK FOR REVISION ISSUE DATE(S)					
SHEET	SHEET TITLE	BID SET	PERMIT SET	REVISION 1	REVISION 2
G0001	GENERAL INFORMATION	X	X	X	
G0002a	LANDLORD WORK LETTER	X	X		
G0002b	LANDLORD WORK LETTER	X	X		
G0002c	LANDLORD WORK LETTER	X	X		
G0010	SPECIFICATIONS	X	X		
G0011	SPECIFICATIONS	X	X		
G0012	SPECIFICATIONS	X	X		
G0013	SPECIFICATIONS	X	X		
G0014	SPECIFICATIONS	X	X		
G0015	UL DETAILS	X	X		
G0016	UL DETAILS	X	X		
G0017	UL DETAILS	X	X		
G0018	UL DETAILS	X	X		
S0001	STRUCTURAL GENERAL NOTES	X	X		
S0002	STRUCTURAL GENERAL NOTES	X	X		
S0003	SPECIAL INSPECTIONS	X	X		
S1001	FOUNDATION PLAN	X	X	X	
S1002	ROOF PLAN	X	X	X	
S5001	STRUCTURAL SCHEDULES AND DETAILS	X	X		
S5002	FOUNDATION SECTIONS AND DETAILS	X	X	X	
S5003	FRAMING SECTIONS AND DETAILS	X	X		
S5004	FRAMING SECTIONS AND DETAILS	X	X		
S5005	DUMPSTER ENCLOSURE STRUCTURAL PLANS AND DETAILS	X	X	X	
S5006	SITE FOUNDATIONS	X	X		
S5007	SITE FOUNDATIONS	X	X		
A0002	ARCHITECTURAL SITE DETAILS	X	X		
A0003	ARCHITECTURAL SITE DETAILS	X	X		
A0004	PATIO DETAILS	X	X		
A0005	TRASH ENCLOSURE	X	X	X	
A0006	TRASH ENCLOSURE	X	X	X	
A0007	TRASH ENCLOSURE	X	X	X	
A1003	BUILDING ROOF PLAN	X	X	X	
A2001	BUILDING EXTERIOR ELEVATIONS	X	X	X	
A2002	BUILDING EXTERIOR ELEVATIONS	X	X	X	
A3001	BUILDING SECTIONS	X	X	X	
A3002	WALL SECTIONS	X	X		
A3003	WALL SECTIONS	X	X		
A3004	WALL SECTIONS	X	X		
A3005	WALL SECTIONS	X	X	X	
A5001	BUILDING DETAILS (EXTERIOR WALL)	X	X		
A5002	BUILDING DETAILS (EXTERIOR WALL)	X	X		
A5003	BUILDING DETAILS (ROOF)	X	X		
A5004	BUILDING DETAILS (STOREFRONT AND DOOR)	X	X		
A5006	BUILDING DETAILS (FLASHING)	X	X		
A6001	WINDOW AND DOOR SCHEDULES & DETAILS	X	X		
M1001	MECHANICAL AND PLUMBING PLAN	X	X	X	
M1002	MECHANICAL AND PLUMBING SCHEDULES & DETAILS	X	X	X	
M1003	FIRE PROTECTION PLAN			X	
E0001	ELECTRICAL NOTES	X	X		
E1000	ELECTRICAL SITE PLAN	X	X	X	
E1001	ELECTRICAL PLAN	X	X	X	
E5001	ELECTRICAL DETAILS	X	X		
E6001	ELECTRICAL SCHEDULES	X	X		
E6002	ELECTRICAL SCHEDULES	X	X	X	

AERIAL MAP



VICINITY PLAN



SCOPE OF WORK

PROPOSED MULTI-TENANT SHELL BUILDING WITH DRIVE THRU.

BUILDING SCOPE OF WORK TO INCLUDE EXTERIOR ENVELOPE CONSTRUCTION (FOOTINGS, WALLS, PENETRATION, STRUCTURE, ROOF, ETC.), EXTERIOR BUILDING LIGHTING, ROOFTOP MECHANICAL EQUIPMENT, AND UTILITY STUBS. INTERIOR OF SPACE TO BE FINISHED TO GREY SHELL.

SITE SCOPE OF WORK TO INCLUDE INSTALLATION OF DT EQUIPMENT FOOTINGS AND CONDUIT AND CONDUIT TO NEW SITE LIGHTING

SIGNAGE TO BE PERMITTED SEPARATELY BY OTHERS - ANY REFERENCES HEREIN ARE FOR COORDINATION PURPOSES ONLY.

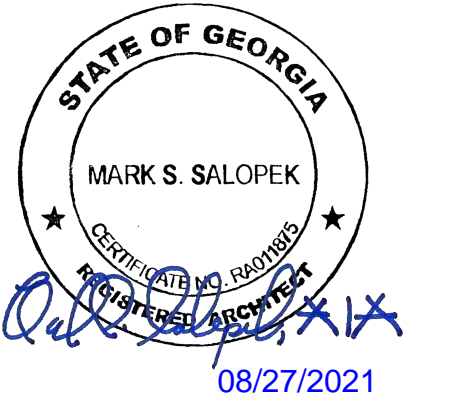
CIVIL IMPROVEMENTS TO BE PERMITTED SEPARATELY BY OTHERS - ANY REFERENCES HEREIN ARE FOR COORDINATION PURPOSES ONLY.

PROJECT INFORMATION

CODE AUTHORITIES (CHEROKEE COUNTY, GA):	
BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE, WITH GEORGIA AMENDMENTS 2020
PLUMBING CODE:	2018 INTERNATIONAL PLUMBING CODE WITH GEORGIA AMENDMENTS 2020
MECHANICAL CODE:	2018 INTERNATIONAL MECHANICAL CODE WITH GEORGIA AMENDMENTS 2020
ELECTRICAL CODE:	2020 NATIONAL ELECTRIC CODE
ENERGY CODE:	2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH GEORGIA SUPPLEMENTS AND AMENDMENTS 2020
FIRE CODE:	2018 INTERNATIONAL FIRE CODE
ACCESSIBILITY CODE:	ICC/ANSI A117.1-2010 STANDARDS FOR ACCESSIBLE DESIGN
ZONING - GC GENERAL COMMERCIAL (CHEROKEE COUNTY):	
PARCEL NUMBER:	15N13010
GROSS SF:	+/- 6,200 SF
CONSTRUCTION TYPE:	V-B
SPRINKLERED:	Y
ALLOWABLE AREA:	24,000 SF (A-2 USE, TYPE V-B, SPRINKLERED)
OCCUPANCY TYPE:	SEPARATED MIXED-USE A-2 (ASSEMBLY) / B (BUSINESS)
PROPOSED USE:	RETAIL SALES AND SERVICES
(EXACT OCCUPANCY TYPE AND SQUARE FOOTAGES TO BE DETERMINED UPON FUTURE TENANT OCCUPATION UNDER THEIR RESPECTIVE PERMITS)	
ALLOWABLE TRAVEL DISTANCE	
ALLOWABLE:	1 STORY - 40' / 6,000 SQFT
ACTUAL:	1 STORY - 22'-0" / 4,200 SQFT
DEFERRED SUBMITTALS:	SIGNAGE FIRE PROTECTION HEALTH DEPARTMENT



REV.	DATE	DESCRIPTION
1	08/27/2021	BUILDING DEPARTMENT REVISIONS



MARIETTA HWY & I-575 5068 MARIETTA HIGHWAY CANTON, GA 30114	GENERAL INFORMATION
-------------------------------------------------------------------	---------------------

ISSUED FOR CONSTRUCTION	DATE
BID	
PROJECT MANAGER	DESIGNER
AK	DB

JOB NO.  
2020379.07

G0001







D

C

B

A

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STARBUCKS COFFEE COMPANY

Landlord Workletter

CSI	Scope/Category	Details
092000	Wall Assembly	<p><b>General:</b> Landlord shall provide exterior masonry wall construction and interior Gypsum Wallboard (GWB) demising walls. System shall be designed to resist dead and live loads, based on jurisdictional requirements.</p> <p><b>Insulation:</b> Provide wall insulation in sufficient thickness to meet the following minimum resistance R-21 or R13+R6.5ci (continuous insulation). In cold weather zones; provide additional insulation as required to meet the prescriptive envelope requirements of the IECC.</p> <p><b>Blocking:</b> Landlord shall provide wall anchorage for all exterior Tenant furnished items. Design anchorage to resist vertical and lateral loads, with a safety factor of 2.</p> <p><b>Gypsum Wallboard (GWB):</b> Landlord shall provide GWB on interior face of exterior masonry walls. Provide 6" interior furring and GWB on all exposed masonry walls. Furnish boards of maximum permissible length, with tapered edge for boards to be exposed, taped, and finished; min. 0-5/8" thick. Install per GA216 and requirements for each fire assembly. Coordinate all rough-in wall conduits, plumbing, and blocking with Tenant prior to installation of GWB. Provide interior furring and GWB on all exposed masonry walls. Interior walls shall be Level 4 finish primed white.</p> <p><b>Penetrations:</b> Wall penetrations for tenant provided fixtures, including but not limited to; building signage, sconce lighting, and exterior speakers shall be provided by the landlord. Penetration locations shall be coordinated with tenant prior to installation and shall be properly waterproofed and flashed. Junction boxes with conduits and pull string shall be stubbed into tenant's space for future connectivity.</p>
095000	Ceiling Assembly	<p><b>General:</b> Landlord shall deliver Tenant's space with ceiling open to structure. Ceiling assembly shall meet the hourly fire ratings approved by the local jurisdiction having authority. Ceiling assembly; including fireproofing, insulation, wood, concrete, or metal structure, shall be prepped and primed to receive Tenant's future finish. Landlord shall coordinate height to bottom of structure with Tenant, and shall include adequate spacing for ceiling finishes, lighting, HVAC, and fire sprinkler system (if applicable).</p>
107000	Site Accessories	<p><b>Bike Rack:</b> Landlord shall install Tenant approved bike rack(s). Install in a mutually agreed upon location which limits pedestrian disruption and adheres to the barrier free provisions of the code.</p> <p><b>Screening:</b> Landlord shall provide site screening as necessary to reduce noise and light transfer to adjacent sites. Screening shall be complementary to building aesthetic and placed in accordance with local jurisdictional requirements and Tenant's Design/Technical Criteria Package and coordinated</p>

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STARBUCKS COFFEE COMPANY

Landlord Workletter

CSI	Scope/Category	Details
		<p>Transom Decal: ("THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS")</p> <p><b>Exterior Service Door:</b></p> <p>Threshold: National Guard - 325 Half Saddle Threshold Securing device: Falcon Lock - C607 7-Pin Core Combination "A" Keyway Securing device: Sur-Lock - I/O 2000L-03IC Auto Locking Door Alarm, IC; No CTR Includes - Mortise Cylinder Closer: Dorma - 8916 Door Closer 8916 AF89P Kickplate: Rockwood - 10" Kickplate Peep Hole: DS-6 Door Spy Door Bell: Nutone - MCV309NWHGL Door Bell Door Stop: Rockwood 473 Door Stop with Hook Miscellaneous: National Guard - 16A Rain Drip Miscellaneous: National Guard - 137NA Weather Strip</p> <p>Regional: Provide fly fan and associated power per jurisdictional requirements</p> <p><b>Finishes:</b> General: US26D, Satin Chrome Plated, except: Push Plates, Door Pulls, Kickplates: US32D, Satin Stainless Steel</p> <p>Door Closers: 689/Sprayed Aluminum</p>
085000	Drive Thru Window	<p><b>General:</b> Landlord shall furnish and install fully operational Ready AccessTM Series 600 MOER drive-thru service window. Include transom, sidelights, heater and/or air curtain as required per local code. Window and air curtain finish to match adjacent storefront. Select window based on Tenant provided criteria and geographic location of store. Coordinate window configuration (right to left or left to right) with Tenant.</p> <p><b>Electrical:</b> Install Electrical for Drive thru window and fly fan per manufacturer's specifications.</p> <p><b>Heated Air Curtain:</b> Install one [1] dedicated 40 amp 208/240 single phase circuit for heated air curtain system per manufacturer's specifications.</p> <p><b>Window Shelf:</b> Install service window shelf at 36" AFF inside and 42" outside as measured above drive-thru surface. Finish shall be exterior grade, durable, no reflective surface per Tenant's approval. Example: Paperstone, Corian or equal</p>

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STARBUCKS COFFEE COMPANY

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CSI	Scope/Category	Details
084000	Exterior Openings	<p><b>General:</b> Landlord shall furnish and install all exterior doors, frames, windows and/or storefront system in compliance with all local and national codes. Thermal resistance of all openings shall comply with the prescriptive requirement of the IECC (International Energy Conservation Code).</p> <p><b>Vestibule:</b> In Climate Zone 6 and above, Landlord shall furnish and install heated entry vestibule in conformance with the barrier free provisions of the code and applicable energy code requirements.</p> <p><b>Steel Doors:</b> Landlord shall furnish and install up to [2] commercial grade 42" x 84" rear service door(s). Door(s) shall be cold rolled and welded 16 gauge steel with polystyrene core. Frames shall be Double Rabbet fully welded 14 gauge steel. Finish hot dip galvanized coating with two [2] coats shop prime color similar to finish.</p> <p><b>Aluminum Storefront:</b> Storefront shall be 2" x 4-1/2" extruded aluminum section in conformance with ASTM B221; center set; flush design; thermally broken. Doors shall be heavy duty aluminum/glass type; out swinging with 10" bottom rail. Design and size members and anchorages to withstand wind loads as required by the jurisdictional code, and to resist door pivot and closer reaction forces. Finish shall be anodized; coordinate color with Tenant. Provide hurricane resistant frames and associated anchorage for special wind regions as defined in ASCE 7-05.</p> <p><b>Glazing:</b> Storefront glazing to be clear, non-tinted, non-reflective, double glazed and low-e with U-value complying with the appropriate climatic zone in the IECC (International Energy Conservation Code) or local jurisdictional requirements. Provide impact resistant glazing in hurricane or special wind regions as defined in ASCE 7-05.</p> <p><b>Hardware:</b> Landlord shall furnish and install all exterior door hardware in compliance with federal, state, provincial, and local building, life safety, and accessibility requirements.</p> <p><b>Aluminum Storefront:</b></p> <p>Weather stripping: Hard-backed poly pile in door and/or frame Threshold: Extruded aluminum with ribbed surface Sill Sweeps: Brush strip, concealed Pivoting/Hinging: Offset pivot; top and intermediate Closers: Dorma BTS 80 NHO; concealed floor closer; single acting; offset pivot Latches/Strike: Adams-Rite MS1830 with provisions for keyed cylinders on interior face only; mount to bottom rail Keying: All lockset and deadbolts shall be keyed as directed by owner Push/Pulls: Arcadia Radius Push-Pull Set; straight pull option; clear finish Cylinder Guard</p>

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STARBUCKS COFFEE COMPANY

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		<p>RTUs with approved shut-off valves. Provide a tee and shut-off valve inside tenant space for future gas water heater.</p>
073000	Roof Assembly	<p><b>General:</b> Landlord shall provide fully adhered or mechanically fastened 60 Mills (nominal thickness) EPDM or TPO roofing system. System shall conform with applicable federal, state, provincial, and local building codes, and be engineered to satisfy site specific structural, fire, and thermal requirements. Insulation shall be minimum R-38 or comply with the minimum prescriptive values outlined in the IECC (International Energy Conservation Code). System shall include underlayment, rigid board insulation, glass mat cover board, sheet flashing, edge sealants, saddles, corners, and vent flashing.</p> <p><b>Structure:</b> Roof Structure shall be designed in conformance with local codes and engineered to resist uplift, live, and dead loads requirements. In addition, structure shall be sized to support Tenant's RTUs, utility fan, and remote condenser (if applicable, in locations to be coordinated with Tenant).</p> <p><b>Finish:</b> SRI (Solar Reflectance Index) = 79 minimum</p> <p><b>Flexible Walkways:</b> Install walkway products in locations to permit travel from rooftop access to all utilities. Heat weld to substrate or adhere with compatible adhesives.</p> <p><b>Penetrations:</b> Landlord shall furnish and install rooftop penetrations, curbs, and associated flashings. Size and location of penetrations shall be coordinated with and approved by Tenant prior to installation. Penetrations shall include and not be limited to the following:</p> <ol style="list-style-type: none"><li>Plumbing Vents - Extend 12" into building for Tenant's tie-in</li><li>Water Heater B-Vent</li><li>Utility Set Fan Curb</li><li>RTU Curbs</li><li>Electrical and Gas penetration for RTU's</li><li>Electrical Signage penetrations</li><li>Line set penetration for Ice maker (if applicable)</li><li>Sleepers for condensers (if applicable)</li></ol> <p><b>Rooftop Access (Exterior):</b> Provide aluminum channel exterior rooftop access ladder at rear of building in Tenant approved location. Ladder shall be fixed exterior grade with lockable access. Ladder shall be in compliance with OSHA regulations and conform with local and national codes.</p> <p><b>Drainage:</b> Landlord shall furnish and install jurisdictionally approved rooftop drainage to tie in with site and/or municipal stormwater management system. Scupper and downspouts shall be minimum .032" thickness formed and coated aluminum, color to match adjacent finish. Coordinate scupper/downspouts with exterior building elements and Tenant provided signage.</p>

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STARBUCKS COFFEE COMPANY

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CSI	Scope/Category	Details
		<p>and enhance the Tenant's customer experience.</p> <p><b>Trees:</b> In no case will the caliper of newly planted trees be less than 2", and stand less than 7'-0" tall. All trees shall be staked minimum one year or until fully established. At no point shall a tree blocking visual access to prominent site features such as storefront windows, entrances, Tenant signage, site wayfinding, or pedestrian access when fully grown.</p> <p><b>Turf:</b> No turf grass is permitted on Tenant's site.</p> <p><b>Planters:</b> All planters should be designed to ensure proper drainage and include an appropriate amount of native topsoil to ensure optimum plant health. Where applicable, provide a minimum 2" of mulch over landscape beds to retain soil moisture and minimize weed growth.</p> <p><b>Maintenance:</b> Any landscaping designs that require maintenance items after the first year including, but not limited to, removal of planter stakes and temporary irrigation, must be scheduled at completion of landscaping work.</p>
333100	Sanitary Sewer	<p><b>General:</b> Permit, furnish, and install at rear of Tenant's space, a 4" sanitary sewer waste line dedicated for Tenant's use. The invert elevation at the furthest point of connection shall be 27" below finished floor, and maintain a minimum slope of 0-1/4" per lineal foot. Landlord shall hydro flush and video scope Tenant's sewer lateral to connection with city sewer main.</p>
0334100	Storm Water Management	<p><b>System:</b> Provide a subsurface stormwater retention system to accommodate Tenant's building configuration, site circulation, patio, site amenities, and jurisdictional requirements as defined in the Landlord's approved site plan.</p> <p><b>Downspouts:</b> Coordinate location of roof and canopy downspouts with Landlord's approved site plan. No direct discharge to sidewalks, drive aisles, patio, or parking lot are permitted.</p>
335100	Gas Distribution	<p><b>General:</b> Permit, furnish, install gas meter or sub-meter outside Tenant's space isolated from customer view. Extend service to a location 5'-0" inside of Premises at Tenant's back of house with shut off valve and tee.</p> <p><b>Natural Gas Service Size:</b> The minimum natural gas service size is 1 ½" (38.1 mm) with low pressure (7" WC or less). Provide pressure regulator(s) for medium or high pressure as supplied by the gas utility company. Piping size shall be based on pressure distribution, local availability and shall be coordinated with store gas demand, based on equipment input and pressure requirements. Any exposed gas piping on roof shall be painted yellow, or as directed by code.</p> <p><b>Installation (Ceiling Cavity):</b> Gas distribution to RTUs will be run through the ceiling cavity. Gas piping shall be held tight to underside of structure and extended through roofing adjacent to Tenant units. Terminate lines at individual</p>

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STARBUCKS COFFEE COMPANY

Landlord Workletter

CSI	Scope/Category	Details
		<p>Recyclable Materials (the "Bins").</p> <p><b>Bins:</b> All openings on all Bins shall have a maximum height of 3'-0" from ground level, or if the opening on any Bin is higher than 3'-0" from ground level an appropriate step shall be provided by Landlord so that the opening is 3'-0" or less from the top of the step.</p> <p><b>Cladding:</b> No open chain link enclosures will be allowed and all construction materials and fencing materials shall be approved by Tenant.</p> <p><b>Location &amp; Access:</b> The trash enclosure shall be physically located on the site in a mutually agreed upon location no greater than 300'-0" from the Tenant's service door without interrupting the flow to the drive-thru lane (if applicable) or access to the parking areas or ingress or egress to and from the Premises.</p> <p><b>Pathway:</b> The pathway from the Premises to the enclosure and the enclosure itself shall be well lit. Access pathway from rear door to Tenant's trash area shall be ramped to allow rolling access.</p> <p><b>Hose Bib:</b> Provide a lockable hose bib within the Trash and Recycling Area. If the trash enclosure is further than 75'-0" from Tenant's rear access door, Tenant can use hose bib adjacent to door.</p>
328000	Irrigation Systems	<p><b>Installation:</b> Landlord shall furnish and install irrigation system in compliance with local regulations. Irrigation system shall be type drip or micro spray with weather and soil moisture sensor and SMRT Logic internet compatible. System design shall maximize delivery of water to plant areas while minimizing over-spray, runoff and customer disruption. Controls shall be set to run at optimal times; early morning and evening, to minimize evaporation loss and business hours disruption.</p> <p><b>Metering:</b> Irrigation system shall be separately metered and include an integral backflow prevention device. Vault type control and valves are preferred and must be accessible by Tenant.</p> <p><b>Temporary Irrigation System:</b> If a permanent irrigation system is NOT required due to landscape type then a temporary system should be installed until plants are established. Verification the landscaping does not require an irrigation system must be provided. The prescriptive requirements are defined in the Starbucks Landscaping and Plumbing Design Guidelines and specifications.</p>
329300	Landscaping	<p><b>Design:</b> Landscape design must use native and adaptive variety species that are type low maintenance and require minimal to no irrigation. Additional requirements such as salt runoff or drought tolerance shall be considered regionally. Landscape shall minimize rain and irrigation run-off while conserving and utilizing existing vegetation as required. Designs shall include a mixture of trees, shrubs and ground cover to retain soil moisture, mitigate solar heat gain,</p>

Feb 21, 2021

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REV.	DATE	DESCRIPTION



MARIETTA HWY & I-575  
5068 MARIETTA HIGHWAY  
CANTON, GA 30114

LANDLORD WORK LETTER

	DATE
ISSUED FOR CONSTRUCTION	
BID	
PROJECT MANAGER	DESIGNER
AK	DB

JOB NO.  
2020379.07


G0002b







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D	<div><div>GENERAL CONDITIONS</div><div>SECTION 014200 - REFERENCES</div><div>PART 1 - GENERAL</div><div>1.1 INDUSTRY STANDARDS</div><div>A. APPLICABILITY OF STANDARDS: UNLESS THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS TO THE EXTENT REFERENCED. SUCH STANDARDS ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE.</div><div>B. PUBLICATION DATES: COMPLY WITH STANDARDS IN EFFECT AS OF DATE OF THE CONTRACT DOCUMENTS UNLESS OTHERWISE INDICATED.</div><div>C. COPIES OF STANDARDS: EACH ENTITY ENGAGED IN CONSTRUCTION ON PROJECT SHOULD BE FAMILIAR WITH INDUSTRY STANDARDS APPLICABLE TO ITS CONSTRUCTION ACTIVITY. COPIES OF APPLICABLE STANDARDS ARE NOT BOUND WITH THE CONTRACT DOCUMENTS.</div><div>1. WHERE COPIES OF STANDARDS ARE NEEDED TO PERFORM A REQUIRED CONSTRUCTION ACTIVITY, OBTAIN COPIES DIRECTLY FROM PUBLICATION SOURCE.</div><div>1.2 ABBREVIATIONS AND ACRONYMS</div><div>A. INDUSTRY ORGANIZATIONS: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST.</div><div>ACI AMERICAN CONCRETE INSTITUTE</div><div>AHA AMERICAN HARDBOARD ASSOCIATION</div><div>ATC AMERICAN INSTITUTE OF TIMBER CONSTRUCTION</div><div>ANSI AMERICAN NATIONAL STANDARDS INSTITUTE</div><div>APA APA - THE ENGINEERED WOOD ASSOCIATION</div><div>ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS</div><div>ASTM ASTM INTERNATIONAL (AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL)</div><div>AWI ARCHITECTURAL WOODWORK INSTITUTE</div><div>AWPA AMERICAN WOOD PROTECTION ASSOCIATION (FORMERLY: AMERICAN WOOD PRESERVERS' ASSOCIATION)</div><div>CRI CARPET AND RUG INSTITUTE (THE)</div><div>CRRC COOL ROOF RATING COUNCIL</div><div>CSA CANADIAN STANDARDS ASSOCIATION</div><div>CSA CSA INTERNATIONAL (FORMERLY: IAS - INTERNATIONAL APPROVAL SERVICES)</div><div>CSI CONSTRUCTION SPECIFICATIONS INSTITUTE (THE)</div><div>ETL SEMCO INTERTEK ETL SEMCO (FORMERLY: ITS - INTERTEK TESTING SERVICE NA)</div><div>FM GLOBAL FM GLOBAL (FORMERLY: FMG - FM GLOBAL)</div><div>FSC FOREST STEWARDSHIP COUNCIL</div><div>HIPVA HARDWOOD PLYWOOD &amp; VENEER ASSOCIATION</div><div>ISO INTERNATIONAL ORGANIZATION FOR STANDARDIZATION</div><div>ITS INTERTEK TESTING SERVICE NA (NOW ETL SEMCO)</div><div>MFMA MAPLE FLOORING MANUFACTURERS ASSOCIATION, INC.</div><div>MPI MASTER PAINTERS INSTITUTE</div><div>NFPA NATIONAL FIRE PROTECTION ASSOCIATION)</div><div>NOFMA NOFMA: THE WOOD FLOORING MANUFACTURERS ASSOCIATION (FORMERLY: NATIONAL OAK FLOORING MANUFACTURERS ASSOCIATION)</div><div>OPL INTERTAK</div><div>SDI STEEL DOOR INSTITUTE</div><div>SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION</div><div>UL UNDERWRITERS LABORATORIES INC.</div><div>USGBC U.S. GREEN BUILDING COUNCIL</div><div>WCLIB WEST COAST LUMBER INSPECTION BUREAU</div><div>WI WOODWORK INSTITUTE (FORMERLY: WIC - WOODWORK INSTITUTE OF CALIFORNIA)</div><div>B. CODE AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST.</div><div>DIN DEUTSCHES INSTITUT FUR NORMUNG E.V.</div><div>ICC INTERNATIONAL CODE COUNCIL</div><div>ICC-ES ICC EVALUATION SERVICE, INC.</div><div>C. FEDERAL GOVERNMENT AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST.</div><div>EPA ENVIRONMENTAL PROTECTION AGENCY</div><div>D. STANDARDS AND REGULATIONS: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE STANDARDS AND REGULATIONS IN THE FOLLOWING LIST.</div><div>ADAAG AMERICANS WITH DISABILITIES ACT (ADA)</div><div>ARCHITECTURAL BARRIERS ACT (ABA)</div><div>ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES AVAILABLE FROM U.S. ACCESS BOARD</div><div>CFR CODE OF FEDERAL REGULATIONS</div><div>AVAILABLE FROM GOVERNMENT PRINTING OFFICE</div><div>E. STATE GOVERNMENT AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST.</div><div>CDHS CALIFORNIA DEPARTMENT OF HEALTH SERVICES</div><div>CDPH CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, INDOOR AIR QUALITY SECTION</div><div>END OF SECTION 014200</div></div>				
	<div><div>CONCRETE</div><div>SECTION 033500 - CONCRETE FINISHING</div><div>1.1 SUBMITTALS</div><div>A. QUALIFICATION DATA: FOR QUALIFIED APPLICATOR.</div><div>B. MATERIAL CERTIFICATES.</div><div>1.2 FLOOR AND SLAB TREATMENTS</div><div>A. VOC CONTENT: FLOOR TREATMENTS SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>B. UNPIGMENTED MINERAL DRY-SHAKE FLOOR HARDENER: FACTORY-PACKAGED DRY COMBINATION OF PORTLAND CEMENT, GRADED QUARTZ AGGREGATE, AND PLASTICIZING ADMIXTURE.</div><div>C. PIGMENTED MINERAL DRY-SHAKE FLOOR HARDENER: FACTORY-PACKAGED, DRY COMBINATION OF PORTLAND CEMENT, GRADED QUARTZ AGGREGATE, COLOR PIGMENTS, AND PLASTICIZING ADMIXTURE. USE COLOR PIGMENTS THAT ARE FINELY GROUND, NONFADING MINERAL OXIDES INTERGROUND WITH CEMENT.</div><div>1.3 LIQUID FLOOR TREATMENTS</div><div>A. VOC CONTENT: LIQUID FLOOR TREATMENTS SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>B. PENETRATING LIQUID FLOOR TREATMENT: CLEAR, CHEMICALLY REACTIVE, WATERBORNE SOLUTION OF INORGANIC SILICATE OR SILICONATE MATERIALS AND PROPRIETARY COMPONENTS; ODORLESS; THAT PENETRATES, HARDENS, AND DENSIFIES CONCRETE SURFACES.</div><div>C. PENETRATING LIQUID FLOOR TREATMENTS FOR POLISHED CONCRETE FINISH: CLEAR, WATERBORNE SOLUTION OF INORGANIC SILICATE OR SILICONATE MATERIALS AND PROPRIETARY COMPONENTS; ODORLESS; THAT PENETRATES, HARDENS, AND IS SUITABLE FOR POLISHED CONCRETE SURFACES.</div><div>1.4 INSTALLATION</div><div>A. DRY-SHAKE FLOOR HARDENER FINISH: AFTER INITIAL FLOATING, APPLY DRY-SHAKE FLOOR HARDENER TO SURFACES.</div><div>B. PENETRATING LIQUID FLOOR TREATMENT: PREPARE, APPLY, AND FINISH PENETRATING LIQUID FLOOR TREATMENT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>C. SEALING COAT: UNIFORMLY APPLY A CONTINUOUS SEALING COAT OF CURING AND SEALING COMPOUND TO HARDENED CONCRETE BY POWER SPRAY OR ROLLER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.</div><div>D. PROTECT LIQUID FLOOR TREATMENT FROM DAMAGE AND WEAR DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTIVE METHODS AND MATERIALS, INCLUDING TEMPORARY COVERING, RECOMMENDED IN WRITING BY LIQUID FLOOR TREATMENTS INSTALLER.</div><div>END OF SECTION 033500</div></div>				
	<div><div>MASONRY</div><div>SECTION 042113 - BRICK MASONRY</div><div>1.1 SUMMARY</div><div>A. MASONRY CONSTRUCTION:</div><div>1. MASONRY VENEER.</div><div>1.2 SUBMITTALS</div><div>A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.</div><div>B. SHOP DRAWINGS: FOR THE FOLLOWING:</div><div>1. MASONRY UNITS: SHOW SIZES, PROFILES, COURSING, AND LOCATIONS OF SPECIAL SHAPES.</div><div>2. FABRICATED FLASHING: DETAIL CORNER UNITS, END-DAM UNITS, AND OTHER SPECIAL APPLICATIONS.</div><div>C. SAMPLES FOR VERIFICATION: FOR EACH TYPE AND COLOR OF THE FOLLOWING:</div><div>1. FACE BRICK.</div><div>2. SPECIAL BRICK SHAPES.</div><div>3. PIGMENTED AND COLORED-AGGREGATE MORTAR. MAKE SAMPLES USING SAME SAND AND MORTAR INGREDIENTS TO BE USED ON PROJECT. LABEL SAMPLES TO INDICATE TYPES AND AMOUNTS OF PIGMENTS USED.</div><div>4. ACCESSORIES EMBEDDED IN MASONRY.</div><div>D. MIX DESIGNS: FOR EACH TYPE OF MORTAR AND GROUT. INCLUDE DESCRIPTION OF TYPE AND PROPORTIONS OF INGREDIENTS.</div><div>1. INCLUDE TEST REPORTS, PER ASTM C 780, FOR MORTAR MIXES REQUIRED TO COMPLY WITH PROPERTY SPECIFICATION.</div><div>2. INCLUDE TEST REPORTS, PER ASTM C 1019, FOR GROUT MIXES REQUIRED TO COMPLY WITH COMPRESSIVE STRENGTH REQUIREMENT.</div><div>E. COLD-WEATHER PROCEDURES: DETAILED DESCRIPTION OF METHODS, MATERIALS, AND EQUIPMENT TO BE USED TO COMPLY WITH COLD-WEATHER REQUIREMENTS.</div><div>1.3 QUALITY ASSURANCE</div><div>A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE TO COMPLY WITH REQUIREMENTS IN GENERAL CONDITIONS OF THE CONTRACT.</div><div>1.4 MATERIALS</div><div>A. FACE BRICK: FACING BRICK COMPLYING WITH ASTM C 216.</div><div>1. GRADE: MW.</div><div>2. TYPE: FBS.</div><div>3. INITIAL RATE OF ABSORPTION: LESS THAN 30 G/30 SQ. IN. (30 G/194 SQ. CM) PER MINUTE WHEN TESTED PER ASTM C 67.</div><div>B. EFFLORESCENCE: PROVIDE BRICK THAT HAS BEEN TESTED ACCORDING TO ASTM C 67 AND IS RATED "NOT EFFLORESCED."</div><div>1. SIZE (ACTUAL DIMENSIONS): 3-5/8 INCHES(92 MM) WIDE BY 2-1/4 INCHES (57 MM) HIGH BY 11-5/8 INCHES(194 MM) LONG.</div><div>C. MASONRY JOINT REINFORCEMENT:</div><div>1. MASONRY JOINT REINFORCEMENT, GENERAL: ASTM A 951/A 951M.</div><div>2. MASONRY JOINT REINFORCEMENT FOR VENEERS ANCHORED WITH SEISMIC MASONRY-VENEER ANCHORS: SINGLE 0.187-INCH- (4.76-MM)- DIAMETER, HOT-DIP GALVANIZED - STEEL CONTINUOUS WIRE.</div><div>D. TIES AND ANCHORS: HOT-DIPPED GALVANIZED OR STAINLESS STEEL.</div><div>1. GENERAL: TIES AND ANCHORS SHALL EXTEND AT LEAST 1-1/2 INCHES (38 MM) INTO VENEER BUT WITH AT LEAST A 5/8-INCH (16-MM) COVER ON OUTSIDE FACE.</div><div>2. ADJUSTABLE ANCHORS FOR CONNECTING TO CONCRETE: PROVIDE ANCHORS THAT ALLOW VERTICAL OR HORIZONTAL ADJUSTMENT BUT RESIST TENSION AND COMPRESSION FORCES PERPENDICULAR TO PLANE OF WALL.</div><div>3. RIGID ANCHORS.</div><div>4. ADJUSTABLE MASONRY-VENEER ANCHORS: PROVIDE ANCHORS THAT ALLOW VERTICAL ADJUSTMENT BUT RESIST A 100-LBF (445-N) LOAD IN BOTH TENSION AND COMPRESSION PERPENDICULAR TO PLANE OF WALL WITHOUT DEFORMING OR DEVELOPING PLAY IN EXCESS OF 1/16 INCH (1.5 MM).</div><div>E. EMBEDDED FLASHING.</div><div>1. ALL FLASHING: STAINLESS STEEL.</div><div>2. PARTIALLY EXPOSED FLASHING: STAINLESS STEEL.</div><div>F. MESH WEEPVENT: FREE-DRAINING MESH; MADE FROM POLYETHYLENE STRANDS, FULL HEIGHT AND WIDTH OF HEAD JOINT AND DEPTH 1/8 INCH (3 MM) LESS THAN DEPTH OF OUTER WYTHE; IN COLOR SELECTED FROM MANUFACTURER'S STANDARD.</div><div>G. CAVITY DRAINAGE MATERIAL: FREE-DRAINING MESH, MADE FROM POLYMER STRANDS THAT WILL NOT DEGRADE WITHIN THE WALL CAVITY.</div><div>H. MORTAR:</div><div>1. PORTLAND CEMENT-LIME MORTAR UNLESS OTHERWISE INDICATED.</div><div>a. ALKALI CONTENT SHALL NOT BE MORE THAN 0.1 PERCENT WHEN TESTED ACCORDING TO ASTM C 114.</div><div>1.5 SOURCE QUALITY CONTROL</div><div>A. TESTING AGENCY: OWNER ENGAGED, WITH PAYMENT BY OWNER.</div><div>1.6 INSTALLATION</div><div>A. MATCH EXISTING MASONRY COURSING, BONDING, COLOR, AND TEXTURE.</div><div>B. BOND PATTERN: AS INDICATED.</div><div>C. CLEAN MASONRY WASTE RECYCLED AS FILL MATERIAL.</div><div>1.7 FIELD QUALITY CONTROL</div><div>A. TESTING AGENCY: OWNER ENGAGED.</div><div>B. INSPECTIONS: SPECIAL INSPECTIONS ACCORDING TO LEVEL B IN TMS 402/ACI 530/ASCE 5.</div><div>END OF SECTION 042113</div></div>				
	<div><div>METALS</div><div>SECTION 055000 - METAL FABRICATIONS</div><div>1.1 SUMMARY</div><div>A. STEEL FRAMING AND SUPPORTS FOR MECHANICAL AND ELECTRICAL EQUIPMENT.</div><div>B. STEEL FRAMING AND SUPPORTS FOR APPLICATIONS WHERE FRAMING AND SUPPORTS ARE NOT SPECIFIED IN OTHER SECTIONS.</div><div>C. SHELF ANGLES.</div><div>D. METAL BOLLARDS.</div><div>1.2 SUBMITTALS</div><div>A. PRODUCT DATA: FOR THE FOLLOWING:</div><div>1. PAINT PRODUCTS.</div><div>2. GROUT.</div><div>3. ALL PREFABRICATED PRODUCTS.</div><div>B. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.</div><div>1. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF METAL FABRICATIONS. AND THEIR CONNECTIONS. SHOW ANCHORAGE AND ACCESSORY ITEMS.</div><div>2. PROVIDE TEMPLATES FOR ANCHORS AND BOLTS SPECIFIED FOR INSTALLATION UNDER OTHER SECTIONS.</div><div>C. WELDING CERTIFICATES.</div><div>1.3 PRODUCTS</div><div>A. MATERIALS: STEEL PLATES, SHAPES, AND BARS, STEEL PIPE, SLOTTED CHANNEL FRAMING.</div><div>1. LOW-EMITTING PRIMER: METAL PRIMER SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>B. MISCELLANEOUS FRAMING AND SUPPORTS:</div><div>1. STEEL FRAMING AND SUPPORTS FOR MECHANICAL AND ELECTRICAL EQUIPMENT.</div><div>APPLICATIONS WHERE FRAMING AND SUPPORTS ARE NOT SPECIFIED IN OTHER SECTIONS.</div><div>2. GALVANIZE WHERE INDICATED.</div><div>3. PRIME WITH ZINC-RICH PRIMER WHERE INDICATED.</div><div>a. ZINC-RICH PRIMER SHALL HAVE A VOC CONTENT OF 340 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>C. LOOSE STEEL LINTELS, GALVANIZED AT EXTERIOR WALLS.</div><div>D. SHELF ANGLES, GALVANIZED.</div><div>E. STEEL WELD PLATES AND ANGLES NOT SPECIFIED IN OTHER SECTIONS, FOR CASTING INTO CONCRETE.</div><div>F. METAL BOLLARDS: SCHEDULE 40 STEEL PIPE.</div><div>END OF SECTION 055000</div></div>				
	<div><div>WOODS AND PLASTICS</div><div>SECTION 061000 - ROUGH CARPENTRY</div><div>1.1 MATERIALS</div><div>A. WOOD-PRESERVATIVE-TREATED LUMBER:</div><div>1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2, BUT USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION AND USE CATEGORY UC4A ITEMS IN CONTACT WITH THE GROUND.</div><div>a. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM. DO NOT USE INORGANIC BORON (SBX) FOR SILL PLATES.</div><div>2. APPLICATION: ITEMS INDICATED AND AS FOLLOWS:</div><div>a. ITEMS IN CONTACT WITH ROOFING OR WATERPROOFING.</div><div>b. ITEMS IN CONTACT WITH CONCRETE OR MASONRY.</div><div>c. FRAMING LESS THAN 18 INCHES (460 MM) ABOVE GROUND IN CRAWLSPACES.</div><div>d. FLOOR PLATES INSTALLED OVER CONCRETE SLABS-ON-GRADE.</div><div>B. DIMENSION LUMBER FRAMING: SELECTED FOR APPEARANCE AND FREEDOM FROM DECAY, HONEYCOMB, KNOT-HOLES, SHAKE, SPLITS, TORN GRAIN, AND WANE.</div><div>a. APPLICATION: EXPOSED EXTERIOR AND INTERIOR FRAMING INDICATED TO RECEIVE A STAINED OR NATURAL FINISH.</div><div>b. SPECIES AND GRADE: AS INDICATED FOR LOAD-BEARING CONSTRUCTION.</div><div>C. ENGINEERED WOOD PRODUCTS, GENERAL: PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.</div><div>D. SHEAR WALL PANELS, GENERAL: PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.</div><div>E. FASTENERS: HOT-DIP GALVANIZED STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.</div><div>F. METAL FRAMING ANCHORS:</div><div>1. HOT-DIP GALVANIZED STEEL FOR INTERIOR LOCATIONS.</div><div>2. HOT-DIP, HEAVY-GALVANIZED STEEL FOR TREATED LUMBER AND WHERE INDICATED.</div><div>3. STAINLESS STEEL FOR EXTERIOR AND WHERE INDICATED.</div><div>G. MISCELLANEOUS MATERIALS:</div><div>1. SILL-SEALER GASKETS: [GLASS-FIBER INSULATION] [NEOPRENE FOAM].</div><div>2. ADHESIVES SHALL HAVE A VOC CONTENT OF 70 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>END OF SECTION 061000</div></div>				
	<div><div>WOODS AND PLASTICS</div><div>SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY</div><div>1.1 MATERIALS</div><div>A. WOOD-PRESERVATIVE-TREATED MATERIALS:</div><div>1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2.</div><div>a. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM. DO NOT USE INORGANIC BORON (SBX) FOR SILL PLATES.</div><div>2. APPLICATION: ITEMS INDICATED AND THE FOLLOWING:</div><div>a. ITEMS IN CONTACT WITH ROOFING OR WATERPROOFING.</div><div>b. ITEMS IN CONTACT WITH CONCRETE OR MASONRY.</div><div>c. FRAMING LESS THAN 18 INCHES (460 MM) ABOVE GROUND IN CRAWLSPACES.</div><div>d. FLOOR PLATES INSTALLED OVER CONCRETE SLABS-ON-GRADE.</div><div>B. FIRE-RETARDANT-TREATED MATERIALS:</div><div>1. EXTERIOR TYPE FOR EXTERIOR LOCATIONS AND WHERE INDICATED.</div><div>2. INTERIOR TYPE A UNLESS OTHERWISE INDICATED.</div><div>3. APPLICATION: ITEMS INDICATED AND THE FOLLOWING:</div><div>a. FRAMING FOR RAISED PLATFORMS.</div><div>b. CONCEALED BLOCKING.</div><div>c. ROOF FRAMING AND BLOCKING.</div><div>d. ITEMS IN CONTACT WITH ROOFING.</div><div>e. PLYWOOD BACKING PANELS.</div><div>C. FRAMING:</div><div>1. NON-LOAD-BEARING INTERIOR PARTITIONS: CONSTRUCTION OR NO. 2 GRADE.</div><div>D. MISCELLANEOUS LUMBER:</div><div>1. DIMENSION LUMBER: CONSTRUCTION OR NO. 2 GRADE.</div><div>2. UTILITY SHELVING: 19 PERCENT MAXIMUM MOISTURE CONTENT.</div><div>3. CONCEALED BOARDS: 19 PERCENT MAXIMUM MOISTURE CONTENT.</div><div>E. PLYWOOD BACKING PANELS: EXPOSURE 1, C-D PLUGGED.</div><div>F. FASTENERS: HOT-DIP GALVANIZED STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.</div><div>G. METAL FRAMING ANCHORS:</div><div>1. METAL: GALVANIZED STEEL: HOT-DIP HEAVY GALVANIZED STEEL FOR WOOD-PRESERVATIVE-TREATED LUMBER AND WHERE INDICATED.</div><div>H. ADHESIVES: ADHESIVES SHALL HAVE A VOC CONTENT OF 70 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>1.2 INSTALLATION</div><div>A. FURRING TO RECEIVE PLYWOOD OR HARDBOARD PANELING: 1-BY-3-INCH NOMINAL-SIZE (19-BY-63-MM ACTUAL-SIZE) FURRING AT 24 INCHES (610 MM) O.C.</div><div>B. FURRING TO RECEIVE GYPSUM BOARD: 1-BY-2-INCH NOMINAL-SIZE (19-BY-38-MM ACTUAL-SIZE) FURRING AT 16 INCHES (406 MM) O.C.</div><div>END OF SECTION 061053</div></div>				
	<div><div>WOODS AND PLASTICS</div><div>SECTION 061600 - SHEATHING</div><div>1.1 MATERIALS</div><div>A. WOOD PRODUCTS, GENERAL:</div><div>1. WOOD PANEL PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.</div><div>B. PRESERVATIVE-TREATED PLYWOOD:</div><div>1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2, BUT USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION AND USE CATEGORY UC4A FOR ITEMS IN CONTACT WITH THE GROUND.</div><div>2. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM.</div><div>3. APPLICATION: TREAT PLYWOOD IN CONTACT WITH MASONRY OR CONCRETE OR USED WITH ROOFING, FLASHING, VAPOR BARRIERS, AND WATERPROOFING.</div><div>C. FIRE-RETARDANT-TREATED PLYWOOD:</div><div>1. EXTERIOR TYPE FOR EXTERIOR LOCATIONS AND WHERE INDICATED.</div><div>2. INTERIOR TYPE A, HIGH TEMPERATURE (HT) FOR ROOF SHEATHING AND WHERE INDICATED.</div><div>3. INTERIOR TYPE A, UNLESS OTHERWISE INDICATED.</div><div>4. APPLICATION: TREAT THE FOLLOWING:</div><div>a. ROOF SHEATHING AT FIRE AND PARTY WALLS.</div><div>b. WALL SHEATHING AT FIRE AND PARTY WALLS.</div><div>c. ROOF SHEATHING.</div><div>d. SUBFLOORING AND UNDERLAYMENT FOR RAISED PLATFORMS.</div><div>D. FASTENERS: HOT-DIP GALVANIZED STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.</div><div>E. MISCELLANEOUS MATERIALS:</div><div>1. ADHESIVES SHALL HAVE A VOC CONTENT OF 50 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).</div><div>1.2 INSTALLATION</div><div>A. WOOD STRUCTURAL PANEL:</div><div>1. COMBINATION SUBFLOOR-UNDERLAYMENT:</div><div>a. GLUE AND NAIL TO WOOD FRAMING.</div><div>b. SCREW TO COLD-FORMED METAL FRAMING.</div><div>2. SUBFLOORING:</div><div>a. GLUE AND NAIL TO WOOD FRAMING.</div><div>b. SCREW TO COLD-FORMED METAL FRAMING.</div><div>3. SHEATHING:</div><div>a. NAIL TO WOOD FRAMING.</div><div>b. SCREW TO COLD-FORMED METAL FRAMING.</div><div>4. UNDERLAYMENT:</div><div>a. NAIL TO SUBFLOORING.</div><div>B. GYPSUM SHEATHING:</div><div>1. SCREW TO WOOD FRAMING.</div><div>2. SCREW TO COLD-FORMED METAL FRAMING.</div><div>C. FIBERBOARD SHEATHING:</div><div>1. NAIL TO WOOD FRAMING.</div><div>D. PARTICLEBOARD UNDERLAYMENT:</div><div>1. GLUE AND NAIL TO SUBFLOORING.</div><div>E. HARDBOARD UNDERLAYMENT:</div><div>1. NAIL TO SUBFLOORING.</div><div>END OF SECTION 061600</div></div>				
	<div><div>THERMAL AND MOISTURE PROTECTION</div><div>SECTION 071113 - BITUMINOUS DAMPPROOFING</div><div>1.1 MATERIALS</div><div>A. COLD-APPLIED, EMULSIFIED ASPHALT: VOC OF 250 G/L OR LESS.</div><div>1.2 INSTALLATION</div><div>A. COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING:</div><div>1. CONCRETE FOUNDATIONS AND PARGED MASONRY FOUNDATION WALLS: TWO BRUSH OR SPRAY COATS. ONE FIBERED BRUSH OR SPRAY COAT, OR ONE TROWEL COAT.</div><div>2. UNPARGED MASONRY FOUNDATION WALLS: PRIMER AND TWO BRUSH OR SPRAY COATS, PRIMER AND ONE FIBERED BRUSH OR SPRAY COAT, OR PRIMER AND ONE TROWEL COAT.</div><div>3. UNEXPOSED FACES OF CONCRETE RETAINING WALLS: ONE BRUSH OR SPRAY COAT.</div><div>4. UNEXPOSED FACES OF MASONRY RETAINING WALLS: PRIMER AND ONE BRUSH OR SPRAY COAT.</div><div>5. MASONRY BACKUP FOR BRICK VENEER ASSEMBLIES: PRIMER AND ONE BRUSH OR SPRAY COAT.</div><div>6. EXTERIOR FACE OF INNER WYTHE OF CAVITY WALLS: PRIMER AND ONE BRUSH OR SPRAY COAT.</div><div>7. INTERIOR FACE OF SINGLE-WYTHE EXTERIOR MASONRY WALLS: PRIMER AND ONE BRUSH OR SPRAY COAT.</div><div>END OF SECTION 071113</div></div>				
	<div><div>THERMAL AND MOISTURE PROTECTION</div><div>SECTION 071300 - WATERPROOFING</div><div>1.1 MATERIALS</div><div>A. MODIFIED BITUMINOUS SHEET: MINIMUM 60-MIL (1.5-MM) NOMINAL THICKNESS.</div><div>B. MODIFIED BITUMINOUS SHEET, FABRIC REINFORCED: MINIMUM 60-MIL (1.5-MM) NOMINAL THICKNESS.</div><div>C. EPDM RUBBER SHEET WATERPROOFING: 60 MILS (1.5 MM) THICK, UNREINFORCED.</div><div>D. BUTYL RUBBER SHEET WATERPROOFING: 60 MILS (1.5 MM) THICK, UNREINFORCED.</div><div>E. AUXILIARY MATERIALS:</div><div>1. PRIMER: WATERBORNE.</div><div>2. METAL TERMINATION BARS: ALUMINUM.</div><div>3. PROTECTION COURSE: AS RECOMMENDED BY MANUFACTURER.</div><div>F. MOLDED-SHEET DRAINAGE PANELS: MOLDED-PLASTIC DRAINAGE CORE WITH A WOVEN GEOTEXTILE FACING.</div><div>G. HIGH-CAPACITY, MOLDED-SHEET COLLECTOR-PANEL SYSTEM: MOLDED-PLASTIC DRAINAGE CORE WITH A WOVEN GEOTEXTILE FACING; BY SAME MANUFACTURER AS MOLDED-SHEET DRAINAGE PANELS.</div><div>H. INSULATION: EXTRUDED-POLYSTYRENE BOARD.</div><div>I. INSULATION DRAINAGE PANELS: EXTRUDED-POLYSTYRENE BOARD, WITH GROOVED DRAINAGE CHANNELS; FOR WALL INSTALLATION.</div><div>1.2 INSTALLATION</div><div>A. MODIFIED BITUMINOUS SHEET: ONE-PLY APPLICATION.</div><div>B. RUBBER SHEET: FULLY ADHERED, CEMENT SPLICE SEAMS.</div><div>END OF SECTION 071300</div></div>				

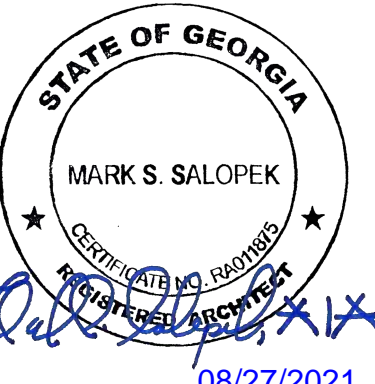


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DATE

REV.



STATE OF GEORGIA  
MARK S. SALOPEK  
GOVERNMENT CONTRACTS  
08/27/2021

MARIETTA HWY & I-575  
5068 MARIETTA HIGHWAY  
CANTON, GA 30114

SPECIFICATIONS

	DATE
ISSUED FOR CONSTRUCTION	
BID	
PROJECT MANAGER	DESIGNER
AK	DB

JOB NO.

2020379.07

G0010











HEATING, VENTILATING AND AIR CONDITIONING

SECTION 231123 - FACILITY NATURAL-GAS PIPING

1.1 SUMMARY

A. NATURAL-GAS PIPING WITHIN THE BUILDING AND DISTRIBUTION ON THE PROJECT SITE.

1.2 PERFORMANCE REQUIREMENTS

A. MINIMUM OPERATING-PRESSURE RATINGS:

1. PIPING AND VALVES: 100 PSIG (690 KPA) MINIMUM UNLESS OTHERWISE INDICATED.

2. SERVICE REGULATORS: 65 PSIG (450 KPA) MINIMUM UNLESS OTHERWISE INDICATED.

3. MINIMUM OPERATING PRESSURE OF SERVICE METER: 5 PSIG (34.5 KPA).

B. NATURAL-GAS SYSTEM PRESSURES WITHIN BUILDINGS: 0.5 PSIG (3.45 KPA) OR LESS.

1.3 MATERIALS

A. PIPING SPECIALTIES:

1. APPLIANCE FLEXIBLE CONNECTORS LISTED WITH CAPACITY MEETING OR EXCEEDING APPLIANCE RATING.

2. QUICK-DISCONNECT DEVICES.

3. Y-PATTERN STRAINERS.

4. WEATHERPROOF VENT CAP.

B. MANUAL GAS SHUTOFF VALVES:

1. TWO-PIECE, FULL-PORT BRONZE BALL VALVES WITH BRONZE TRIM.

2. BRONZE PLUG VALVES.

3. CAST-IRON, NONLUBRICATED PLUG VALVES.

4. PE BALL VALVES.

5. VALVE BOXES.

C. PRESSURE REGULATORS:

1. LINE PRESSURE REGULATORS.

2. APPLIANCE PRESSURE REGULATORS.

D. DIELECTRIC FITTINGS: DIELECTRIC UNIONS.

E. DETECTABLE WARNING TAPE FOR UNDERGROUND PIPING.

1.4 OUTDOOR PIPING SCHEDULE

A. UNDERGROUND PIPING: STEEL PIPE WITH WELDED JOINTS.

B. ABOVEGROUND PIPING: STEEL PIPE WITH THREADED JOINTS.

C. BRANCH PIPING IN CAST-IN-PLACE CONCRETE: ANNEALED-TEMPER COPPER TUBE WITH BRAZED JOINTS.

D. CONTAINMENT CONDUIT: STEEL PIPE WITH WELDED JOINTS.

1.5 INDOOR PIPING SCHEDULE FOR PRESSURES LESS THAN 0.5 PSIG (3.45 KPA)

A. ABOVEGROUND BRANCH PIPING NPS 1 (DN 25) AND SMALLER: STEEL PIPE WITH THREADED JOINTS.

B. ABOVEGROUND DISTRIBUTION PIPING: STEEL PIPE WITH THREADED JOINTS.

C. UNDERGROUND PIPING: STEEL PIPE WITH WELDED JOINTS.

D. CONTAINMENT CONDUIT AND VENT PIPING: STEEL PIPE WITH WELDED JOINTS.

END OF SECTION 231123

HEATING, VENTILATING AND AIR CONDITIONING

SECTION 233113 - METAL DUCTS

1.1 MATERIALS

A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.

B. SHEET METAL MATERIALS:

1. GALVANIZED SHEET STEEL.

C. DUCT LINER:

1. FIBROUS GLASS, TYPE I, FLEXIBLE.

a. WATER-BASED LINER ADHESIVE: VOC CONTENT OF 80 G/L OR LESS FOR INTERIOR APPLICATIONS.

E. SEALANT MATERIALS:

1. WATER-BASED JOINT AND SEAM SEALANT: VOC CONTENT OF 250 G/L OR LESS FOR INTERIOR APPLICATIONS.

2. FLANGED JOINT SEALANT: VOC CONTENT OF 250 G/L OR LESS FOR INTERIOR APPLICATIONS.

3. FLANGE GASKETS.

1.2 SEISMIC-RESTRAINT DEVICES

A. HANGER ROD STIFFENER: STEEL TUBE OR STEEL SLOTTED-SUPPORT-SYSTEM SLEEVE WITH INTERNALLY BOLTED CONNECTIONS TO HANGER ROD.

1.3 DUCT SCHEDULE

A. ALL DUCTS SHALL BE GALVANIZED STEEL.

1.5 HANGERS AND SUPPORT

A. HANGER RODS: ELECTROGALVANIZED, ALL-THREAD RODS OR GALVANIZED RODS WITH THREADS PAINTED WITH ZINC-CHROMATE PRIMER AFTER INSTALLATION.

B. STRAP AND ROD SIZES: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 5-1 (TABLE 5-1M), "RECTANGULAR DUCT HANGERS MINIMUM SIZE;" AND TABLE 5-2, "MINIMUM HANGER SIZES FOR ROUND DUCT."

C. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS, OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

END OF SECTION 233113

HEATING, VENTILATING AND AIR CONDITIONING

SECTION 233423 - HVAC POWER VENTILATORS

1.1 QUALITY ASSURANCE

A. AMCA-CERTIFIED RATINGS SEAL.

1.2 CENTRIFUGAL ROOF VENTILATORS

A. DIRECT-DRIVE OR BELT-DRIVEN CENTRIFUGAL TYPE, WITH SPUN-ALUMINUM HOUSING.

1. VARIABLE-SPEED CONTROLLER.

2. DISCONNECT SWITCH INSIDE FAN HOUSING.

3. BIRD SCREENS.

4. BACKDRAFT DAMPERS.

5. MOTORIZED DAMPERS.

END OF SECTION 233423

HEATING, VENTILATING AND AIR CONDITIONING

SECTION 237413 - PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS

1.1 MANUFACTURED UNITS

A. CASING:

1. GALVANIZED STEEL PAINTED WITH BAKED ENAMEL.

2. GALVANIZED-STEEL LINER.

3. INSULATED WITH FIBERGLASS.

4. GALVANIZED-STEEL DRAIN PAN WITH DRAIN CONNECTION ON BOTH SIDES.

B. SUPPLY-AIR FAN: BELT DRIVEN, FORWARD CURVED, CENTRIFUGAL.

C. CONDENSER-COIL FAN: DIRECT-DRIVEN PROPELLER.

D. SUPPLY-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FINS AND SEAMLESS COPPER TUBE.

E. OUTDOOR-AIR REFRIGERANT COIL:

1. ALUMINUM-PLATE FINS AND SEAMLESS COPPER TUBE.

F. REFRIGERANT CIRCUIT COMPONENTS:

1. NUMBER OF REFRIGERANT CIRCUITS: NUMBER AS SCHEDULED.

2. COMPRESSOR: HERMETIC SCROLL.

3. REFRIGERANT: R-407C OR R-410A.

4. LOW-AMBIENT KIT.

G. FILTERS: DISPOSABLE, MINIMUM 90 PERCENT ARRESTANCE, AND MINIMUM MERV 6.

H. GAS FURNACE:

1. HEAT EXCHANGER AND DRAIN PAN: ALUMINIZED STEEL.

2. FUEL: NATURAL.

3. IGNITION: ELECTRONIC.

4. GRAVITY VENT.

5. TWO-STAGE MODULATING GAS CONTROL VALVE.

I. OUTDOOR: AND RETURN-AIR MIXING DAMPERS: 0 TO 100 PERCENT ECONOMIZER WITH MOTORIZED DAMPERS AND HOOD.

J. ELECTRICAL POWER CONNECTION: SINGLE WITH UNIT-MOUNTED DISCONNECT.

K. BASIC UNIT CONTROLS:

1. CONTROL BOARD TO BE COMPATIBLE WITH CONTROL SYSTEM (EMS, STANDARD AND DCV CONTROLS).

2. WALL-MOUNTED HUMIDISTAT OR SENSOR WITH EXPOSED SET POINT AND EXPOSED INDICATION.

3. REMOTE WALL-MOUNTED ANNUNCIATOR PANEL.

L. ELECTRONIC CONTROLLERS:

1. SAFETY CONTROLS.

2. SCHEDULED CONTROLS.

3. UNOCCUPIED PERIOD CONTROLS.

4. SUPPLY FAN CONTROLS.

5. REFRIGERANT CIRCUIT CONTROLS.

6. GAS FURNACE CONTROLS.

7. FIXED MINIMUM OUTDOOR-AIR CONTROLS.

8. ECONOMIZER ENTHALPY-BASED CONTROLS.

9. CARBON DIOXIDE SENSOR INPUT CONTROLS FOR DEMAND CONTROLLED VENTILATION.

M. ACCESSORIES:

1. GAS BURNER COMPARTMENT HEATER.

2. DUPLEX ELECTRICAL OUTLET.

3. LOW-AMBIENT KIT.

4. FILTER DIFFERENTIAL PRESSURE SWITCH.

5. HAIL GUARDS.

6. CONCENTRIC DIFFUSER.

N. ROOF CURB:

1. VIBRATION ISOLATORS.

2. WIND RESTRAINTS.

3. SEISMIC RESTRAINTS.

END OF SECTION 237413

ELECTRICAL

SECTION 260519 - LOW-VOLTAGE (600V OR LESS) ELECTRICAL POWER CONDUCTORS AND CABLES

1.1 MATERIALS

A. CONDUCTORS AND CABLES:

1. CONDUCTORS: COPPER.

2. CONDUCTOR INSULATION: TYPE THHN/THWN-2, TYPE XHHW-2, TYPE USE AND TYPE SO.

3. MULTICONDUCTOR CABLE: METAL-CLAD CABLE, TYPE MC WITH GROUND WIRE. (IF ALLOWED BY LOCAL JURISDICTION).

1.2 CONDUCTOR MATERIAL APPLICATIONS

A. FEEDERS: COPPER, SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER.

B. BRANCH CIRCUITS: COPPER, SOLID FOR NO. 12 AWG AND SMALLER; STRANDED FOR NO. 10 AWG AND LARGER, EXCEPT VFC CABLE, WHICH SHALL BE EXTRA FLEXIBLE STRANDED.

1.3 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. SERVICE ENTRANCE: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

B. EXPOSED FEEDERS: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

C. FEEDERS CONCEALED IN CEILINGS, WALLS, PARTITIONS, AND CRAWLSPACES: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

D. FEEDERS CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE, AND UNDERGROUND: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

E. EXPOSED BRANCH CIRCUITS, INCLUDING IN CRAWLSPACES: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

F. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

G. BRANCH CIRCUITS CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE, AND UNDERGROUND: TYPE THHN/THWN-2, SINGLE CONDUCTORS IN RACEWAY.

H. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, HARD SERVICE CORD WITH STAINLESS-STEEL, WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS TO SUIT APPLICATION.

1.4 FIELD QUALITY CONTROL

A. TESTING: BY CONTRACTOR.

END OF SECTION 260519

ELECTRICAL

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

1.1 QUALITY ASSURANCE

A. QUALITY STANDARD FOR GROUNDING AND BONDING MATERIALS AND EQUIPMENT: UL 467.

1.2 PRODUCTS

A. INSULATED CONDUCTORS: COPPER WIRE OR CABLE.

B. BARE COPPER CONDUCTORS:

1. SOLID CONDUCTORS.

2. STRANDED CONDUCTORS.

3. TINNED CONDUCTORS.

4. STRANDED BONDING CONDUCTORS.

5. COPPER TAPE BRAIDED BONDING JUMPERS.

6. TINNED-COPPER BRAIDED BONDING JUMPERS.

C. CONNECTORS: BOLTED AND EXOTHERMIC-WELDED TYPE.

D. GROUNDING ELECTRODES:

1. GROUND RODS: COPPER-CLAD STEEL, SECTIONAL TYPE WITH GROUND WELLS AND COVER.

1.3 FIELD QUALITY CONTROL

A. GROUND RESISTANCE TESTING: BY CONTRACTOR-ENGAGED AGENCY.

END OF SECTION 260526

ELECTRICAL

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

1.1 PERFORMANCE REQUIREMENTS

A. DESIGN SUPPORTS FOR MULTIPLE RACEWAYS CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS AND ITS CONTENTS.

B. DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.

1.2 PRODUCTS

A. SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS:

1. STEEL SLOTTED SUPPORT SYSTEMS WITH PAINTED COATINGS.

2. NONMETALLIC SLOTTED SUPPORT SYSTEMS.

3. RACEWAY AND CABLE SUPPORTS.

4. STEEL AND MALLEABLE-IRON CONDUIT AND CABLE HANGERS, CLAMPS, AND ASSOCIATED ACCESSORIES.

5. SUPPORT FOR NON-ARMORED CONDUCTORS AND CABLES IN VERTICAL CONDUIT RISERS.

6. STRUCTURAL STEEL FOR FABRICATED SUPPORTS AND RESTRAINTS.

7. MOUNTING, ANCHORING, AND ATTACHMENT COMPONENTS:

a. POWDER-ACTUATED FASTENERS.

b. MECHANICAL-EXPANSION ANCHORS.

c. CONCRETE INSERTS.

d. CLAMPS FOR ATTACHMENT TO STEEL STRUCTURAL ELEMENTS.

e. ALL STEEL, SPRINGHEAD TOGGLE BOLTS.

f. THREADED HANGER RODS.

B. FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES: WELDED OR BOLTED STEEL SHAPES.

END OF SECTION 260529

ELECTRICAL

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 MATERIALS

A. METAL CONDUITS, TUBING, AND FITTINGS:

1. GRC.

2. EMT.

3. FMC: ZINC-COATED STEEL.

4. LFMC.

5. FITTINGS:

a. EMT: STEEL, SETSCREW OR COMPRESSION TYPE.

b. EXPANSION FITTINGS.

B. NONMETALLIC CONDUITS, TUBING, AND FITTINGS:

1. RNC.

2. FITTINGS: MATCH CONDUIT.

3. SOLVENT CEMENTS AND ADHESIVE PRIMERS SHALL HAVE A VOC CONTENT OF 510 AND 550 G/L OR LESS, RESPECTIVELY.

C. METAL WIREWAYS AND AUXILIARY GUTTERS: SHEET METAL WITH SCREW COVERS.

D. SURFACE METAL RACEWAYS: METAL, GALVANIZED STEEL, WITH SNAP-ON COVERS.

E. BOXES, ENCLOSURES, AND CABINETS:

1. METAL OUTLET AND DEVICE BOXES: ALUMINUM.

2. METAL FLOOR BOXES: CAST METAL OR SHEET METAL, FULLY ADJUSTABLE.

3. LUMINAIRE OUTLET BOXES: NONADJUSTABLE, DESIGNED FOR ATTACHMENT OF LUMINAIRE WEIGHING 50 LB (23 KG).

4. SMALL SHEET METAL PULL AND JUNCTION BOXES.

5. CAST-METAL ACCESS, PULL, AND JUNCTION BOXES.

6. BOX EXTENSIONS.

7. HINGED-COVER ENCLOSURES: METAL.

8. CABINETS: GALVANIZED STEEL.

1.2 RACEWAY APPLICATION

A. OUTDOORS:

1. EXPOSED: GRC.

2. CONCEALED, ABOVEGROUND: RNC, TYPE EPC-40-PVC.

3. UNDERGROUND: RNC, TYPE EPC-40-PVC, DIRECT BURIED.

4. CONNECTION TO VIBRATING EQUIPMENT: LFMC.

5. BOXES AND ENCLOSURES, ABOVEGROUND: TYPE 3R OR TYPE 4.

B. INDOORS:

1. EXPOSED, NOT SUBJECT TO PHYSICAL DAMAGE: EMT.

2. EXPOSED, NOT SUBJECT TO SEVERE PHYSICAL DAMAGE: EMT.

3. CONCEALED: EMT.

4. CONNECTION TO VIBRATING EQUIPMENT: FMC, EXCEPT LFMC IN DAMP OR WET LOCATIONS.

5. DAMP OR WET LOCATIONS: GRC.

6. BOXES AND ENCLOSURES: TYPE 1, EXCEPT TYPE 4 NONMETALLIC IN DAMP OR WET LOCATIONS.

C. MINIMUM RACEWAY SIZE: 3/4-INCH (21-MM) TRADE SIZE.

D. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.

1. RIGID AND INTERMEDIATE STEEL CONDUIT: THREADED RIGID STEEL CONDUIT FITTINGS.

2. PVC EXTERNALLY COATED, RIGID STEEL CONDUITS: FITTINGS LISTED FOR USE WITH THIS TYPE OF CONDUIT.

3. EMT: SETSCREW, STEEL FITTINGS.

4. FLEXIBLE CONDUIT: FITTINGS LISTED FOR USE WITH FLEXIBLE CONDUIT.

END OF SECTION 260533

ELECTRICAL

SECTION 260536 - CABLE TRAYS FOR ELECTRICAL SYSTEMS

1.1 CABLE TRAY TYPES

A. LADDER.

B. SINGLE RAIL.

C. TROUGH.

1.2 MATERIALS

A. CABLE TRAYS, FITTINGS, AND ACCESSORIES: STEEL.

1. FACTORY-STANDARD PRIMER, WITH CHROMIUM-ZINC-PLATED HARDWARE.

2. MILL GALVANIZED BEFORE FABRICATION; WITH GALVANIZED HARDWARE.

3. ELECTROGALVANIZED BEFORE FABRICATION; WITH GALVANIZED HARDWARE.

4. HOT-DIP GALVANIZED AFTER FABRICATION; WITH CHROMIUM-ZINC-PLATED HARDWARE.

5. POWDER-COAT ENAMEL PAINT, WITH CHROMIUM-ZINC-PLATED HARDWARE.

6. BLACK OXIDE FINISH FOR SUPPORT ACCESSORIES AND MISCELLANEOUS HARDWARE.

B. CABLE TRAYS, FITTINGS, AND ACCESSORIES: ALUMINUM; WITH STAINLESS-STEEL HARDWARE.

C. CABLE TRAY ACCESSORIES:

1. COVERS: LOUVERED-TYPE.

2. BARRIER STRIPS.

3. CABLE TRAY SUPPORTS AND CONNECTORS.

D. WARNING SIGNS: 1-1/2-INCH- (40-MM-) HIGH, BLACK LETTERS ON YELLOW BACKGROUND WITH LEGEND "WARNING! NOT TO BE USED AS WALKWAY, LADDER, OR SUPPORT FOR LADDERS OR PERSONNEL".

1.3 SOURCE QUALITY CONTROL

A. TESTED ACCORDING TO NEMA VE 1.

END OF SECTION 260536

ELECTRICAL

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

1.1 MATERIALS

A. SLEEVES:

1. SCHEDULE 40 STEEL PIPE.

2. CAST-IRON PIPE.

3. GALVANIZED-STEEL SHEET FOR CONDUITS PENETRATING NON-FIRE-RATED GYPSUM-BOARD ASSEMBLIES.

4. MOLDED-PE OR -PP PIPE.

5. GALVANIZED-STEEL SHEET FOR RECTANGULAR OPENINGS.

B. SLEEVE-SEALS:

1. EPDM RUBBER SEALING ELEMENTS.

2. CARBON-STEEL PRESSURE PLATES.

3. CARBON-STEEL, WITH CORROSION-RESISTANT COATING CONNECTING BOLTS AND NUTS.

C. HYDRAULIC-CEMENT GROUT.

D. SILICONE SEALANTS:

1. SINGLE-COMPONENT, SILICONE-BASED, NEUTRAL-CURING ELASTOMERIC SEALANT.

2. MULTICOMPONENT, SILICONE-BASED LIQUID ELASTOMERIC NONSHRINKING FOAM.

3. VOC CONTENT OF 250 G/L OR LESS.

END OF SECTION 260544

ELECTRICAL

260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

1.1 QUALITY ASSURANCE

A. COMPLY WITH ANSI A13.1 AND IEEE C2.

1.2 PRODUCTS

A. POWER AND CONTROL RACEWAY IDENTIFICATION: VINYL LABELS.

B. POWER AND CONTROL CABLE IDENTIFICATION: VINYL LABELS.

C. CONDUCTOR IDENTIFICATION: COLOR-CODING CONDUCTOR TAPE.

D. FLOOR MARKING TAPE: 2-INCH- (50-MM-) WIDE PRESSURE-SENSITIVE VINYL TAPE.

E. WARNING LABELS AND SIGNS: SELF-ADHESIVE WARNING LABELS.

G. INSTRUCTION SIGNS: ENGRAVED, LAMINATED ACRYLIC OR MELAMINE PLASTIC.

H. EQUIPMENT IDENTIFICATION LABELS: ENGRAVED, LAMINATED ACRYLIC OR MELAMINE PLASTIC.

END OF SECTION 260553

ELECTRICAL

SECTION 260923 - LIGHTING CONTROL DEVICES

1.1 PRODUCTS

A. TIME SWITCHES: PROGRAMMABLE LIGHTS, WITH SINGLE CHANNEL; ASTRONOMIC TIME, SEVEN-DAY PROGRAMMABLE WITH MINIMUM 8 ON/OFF SET POINTS PER 24 HOUR SCHEDULE.

B. OUTDOOR PHOTOELECTRIC SWITCHES: SOLID STATE, WITH DRY CONTACTS, 15-SECOND TIME DELAY, AND METAL-OXIDE VARISTOR SURGE PROTECTION.

C. DAYLIGHT-HARVESTING SWITCHING CONTROLS: CEILING MOUNTED WITH ADJUSTABLE TIME DELAY AND SET-POINTS.

D. INDOOR OCCUPANCY SENSORS: DUAL-TECHNOLOGY TYPE, WITH SEPARATE, EXTERNALLY MOUNTED RELAY UNIT.

E. SWITCHBOX-MOUNTED OCCUPANCY SENSORS.

F. LIGHTING CONTACTORS: ELECTRICALLY OPERATED AND ELECTRICALLY HELD, WITH NONFUSED DISCONNECT IN NEMA 250 ENCLOSURE. PROVIDE WITH CONTROL AND PILOT DEVICES AS INDICATED IN PLANS.

G. CONTROL CABLES:

1. POWER CABLES: NOT SMALLER THAN NO. 12 AWG.

2. CLASSES 2 AND 3 CONTROL CABLES: STRANDED-COPPER CONDUCTORS, NOT SMALLER THAN NO. 18 AWG.

3. CLASS 1 CONTROL CABLES: STRANDED-COPPER CONDUCTORS, NOT SMALLER THAN NO. 14 AWG.

END OF SECTION 260923



REV.	DATE	DESCRIPTION



MARIETTA HWY & I-575 5068 MARIETTA HIGHWAY CANTON, GA 30114	SPECIFICATIONS
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ISSUED FOR CONSTRUCTION	DATE
BID	

PROJECT MANAGER	DESIGNER
AK	DB

JOB NO. 2020379.07
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G0013
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## FIRE ALARM

## SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

## 1.1 PRODUCTS

- # 1.1 PRODUCTS
- A. FUSIBLE SWITCHES:
    - 1. GENERAL DUTY, SINGLE THROW, 240-V AC, 800 A AND SMALLER: UL 98 AND NEMA KS 1, TYPE GD.
    - 2. ACCESSORIES:
      - a. EQUIPMENT GROUND KIT.
      - b. NEUTRAL KIT.
      - c. ISOLATED GROUND KIT.
      - d. CLASS R FUSE KIT.
      - e. AUXILIARY CONTACT KIT.
      - f. HOOKSTICK HANDLE.
      - g. LUGS: MECHANICAL.
      - h. SERVICE-RATED SWITCHES.
      - i. ACCESSORY CONTROL POWER.
  - B. NONFUSIBLE SWITCHES:
    - 1. GENERAL DUTY, SINGLE THROW, 240-V AC, 600 A AND SMALLER: UL 98 AND NEMA KS 1, TYPE GD.
    - 2. ACCESSORIES:
      - a. EQUIPMENT GROUND KIT.
      - b. NEUTRAL KIT.
      - c. ISOLATED GROUND KIT.
      - d. AUXILIARY CONTACT KIT.
      - e. HOOKSTICK HANDLE.
      - f. LUGS: MECHANICAL.
      - g. ACCESSORY CONTROL POWER.
  - C. MOLDED-CASE CIRCUIT BREAKERS:
    - 1. THERMAL-MAGNETIC TYPE.
    - 2. ADJUSTABLE INSTANTANEOUS-TRIP TYPE.
    - 3. ELECTRONIC-TRIP TYPE.
    - 4. CURRENT-LIMITING TYPE.
    - 5. INTEGRALLY FUSED TYPE.
    - 6. GFOI TYPE.
    - 7. GFEP TYPE.
    - 8. FEATURES AND ACCESSORIES:
      - a. LUGS: MECHANICAL.
      - b. TYPE SWD FOR SWITCHING FLUORESCENT LIGHTING LOADS.
      - c. TYPE HID FOR SWITCHING FLUORESCENT AND HIGH-INTENSITY DISCHARGE LIGHTING CIRCUITS.
      - d. GROUND-FAULT PROTECTION: INTEGRALLY MOUNTED, SELF-POWERED TYPE.
      - e. SHUNT TRIP.
      - f. UNDERVOLTAGE TRIP: 35 TO 75 PERCENT OF RATED VOLTAGE WITHOUT INTENTIONAL TIME DELAY.
      - g. AUXILIARY CONTACTS: TWO SPDT SWITCHES.
      - h. ALARM SWITCH: ONE NO CONTACT.
      - i. KEY INTERLOCK KIT.
      - j. ZONE-SELECTIVE INTERLOCKING: INTEGRAL WITH ELECTRONIC TRIP.
      - k. ELECTRICAL OPERATOR.
      - l. ACCESSORY CONTROL POWER.
  - D. MOLDED-CASE SWITCHES:
    - 1. MCCB WITH FIXED, HIGH-SET INSTANTANEOUS TRIP ONLY, AND SHORT-CIRCUIT WITHSTAND RATING EQUAL TO EQUIVALENT BREAKER FRAME SIZE.
    - 2. INTERRUPTING RATING.
    - 3. FEATURES AND ACCESSORIES:
      - a. LUGS: MECHANICAL.
      - b. GROUND-FAULT PROTECTION: REMOTE-MOUNTED AND POWERED TYPE.
      - c. SHUNT TRIP.
      - d. UNDERVOLTAGE TRIP: 35 TO 75 PERCENT OF RATED VOLTAGE WITHOUT INTENTIONAL TIME DELAY.
      - e. AUXILIARY CONTACTS: TWO SPDT SWITCHES.
      - f. ALARM SWITCH: ONE NO CONTACT.
      - g. KEY INTERLOCK KIT.
      - h. ZONE-SELECTIVE INTERLOCKING: INTEGRAL WITH REMOTE GROUND-FAULT TRIP UNIT.
      - i. ELECTRICAL OPERATOR.
      - j. ACCESSORY CONTROL POWER.
  - E. ENCLOSURES:
    - 1. INDOOR, DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1.
    - 2. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.

E. ENCLOSURES:

OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.

END OF SECTION 262840

## SECTION 262726 - WIRING DEVICES

## 1.1 PRODUCTS

END OF SECTION 262726

- 1.2 FIELD QUALITY CONTROL  
A. TESTING: BY CONTRACTOR.
- 1.3 ADJUSTING  
A. SET FIELD-ADJUSTABLE CIRCUIT-BREAKER TRIP RANGES.

- ## 1.1 GENERAL

- A. FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON THE PLANS. TO BE WIRED, CONNECTED AND LEFT IN FIRST CLASS OPERATING CONDITION. THE SYSTEM SHALL USE ANALOG ADDRESSABLE INITIATING DEVICE CIRCUITS WITH INDIVIDUAL DEVICE SUPERVISION, INCOMING AND STANDBY POWER SUPERVISION, INCLUDE CONTROL PANELS, POWER SUPPLIES, REMOTE ANNUNCIATORS, MANUAL PULL STATIONS, ADDRESSABLE INTERFACES TO SPRINKLER SYSTEM DEVICES FURNISHED BY OTHERS (IF APPLICABLE), AND KITCHEN SUPPRESSION SYSTEM(S) FURNISHED BY OTHERS (IF APPLICABLE), HORNS, STROBES REMOTE CONTROL DEVICES, WIRING, CONNECTIONS TO DEVICES, OUTLET BOXES, JUNCTION BOXES, AND ALL OTHER NECESSARY MATERIAL FOR A COMPLETE OPERATING SYSTEM.
  - B. THE FIRE ALARM CONTROL PANEL SHALL ALLOW FOR LOADING OR EDITING SPECIAL INSTRUCTIONS AND OPERATING SEQUENCES AS REQUIRED. THE SYSTEM IS TO BE CAPABLE OF ON-SITE PROGRAMMING TO ACCOMMODATE EXPANSION, BUILDING PARAMETER CHANGES OR CHANGES AS REQUIRED BY LOCAL CODES. ALL SOFTWARE OPERATIONS ARE TO BE STORED IN A NON-VOLATILE PROGRAMMABLE MEMORY WITHIN THE FIRE ALARM CONTROL PANEL. LOSS OF PRIMARY AND SECONDARY POWER SHALL NOT ERASE THE INSTRUCTIONS STORED IN MEMORY.
  - C. ALL DEVICES AND PERIPHERAL DEVICES SHALL BE THE STANDARD PRODUCT OF A SINGLE MANUFACTURER AND SHALL DISPLAY THE MANUFACTURER'S NAME ON EACH COMPONENT. THE CATALOG NUMBERS SPECIFIED UNDER THIS SECTION ARE THOSE OF SIMPLEX TIME RECORDER CO. AND CONSTITUTE THE MATERIAL AND DESIRED OPERATING FEATURES THAT ARE TO BE FURNISHED.
- 1.2 POWER REQUIREMENTS
- A. THE CONTROL PANEL SHALL RECEIVE 120 VAC POWER (AS NOTED ON THE PLANS) VIA A DEDICATED FUSED DISCONNECT CIRCUIT.
  - B. THE CONTROL PANEL SHALL CONTAIN FOUR (4) NOTIFICATION APPLIANCE CIRCUITS FOR ALARM HORNS AND STROBES AS A MINIMUM. NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL(S) SHALL BE FURNISHED AND INSTALLED AS REQUIRED TO OPERATE ALL NOTIFICATION APPLIANCES SHOWN ON THE PLANS WITH 20% SPARE CAPACITY PER CIRCUIT FOR FUTURE ADDITIONS.
  - C. THE SYSTEM SHALL BE PROVIDED WITH SUFFICIENT BATTERY CAPACITY TO OPERATE THE ENTIRE SYSTEM UPON LOSS OF NORMAL 120 VAC POWER IN A MINIMUM SUPERVISORY MODE FOR A PERIOD OF 24 HOURS OR 24 HOURS AND FIVE (5) MINUTES OF ALARM OPERATION AT THE END OF THIS PERIOD. THE SYSTEM SHALL AUTOMATICALLY TRANSFER TO THE STANDBY BATTERIES UPON POWER FAILURE. ALL BATTERY CHARGING AND RECHARGING SHALL BE AUTOMATIC.
  - D. ALL CIRCUITS REQUIRING SYSTEM-OPERATING POWER SHALL BE 24VDC AND SHALL BE INDIVIDUALLY FUSED AT THE CONTROL PANEL.
- 2.1 FIRE ALARM CONTROL PANEL
- A. WHERE SHOWN ON THE PLANS, PROVIDE AND INSTALL A SIMPLEX MODEL 4010-9101 FIRE ALARM CONTROL PANEL. CONSTRUCTION SHALL BE MODULAR WITH SOLID STATE MICROPROCESSOR BASED ELECTRONICS. IT SHALL DISPLAY ONLY THOSE PRIMARY CONTROLS AND DISPLAYS ESSENTIAL TO OPERATIONS DURING A FIRE ALARM CONDITION.
  - B. THE CONTROL PANEL SHALL HAVE AN 80-CHARACTER LCD DISPLAY AND PERFORM ALL FUNCTIONS LISTED IN THIS SPECIFICATION. THE DISPLAY SHALL BE BACKLIT FOR ENHANCED READABILITY. SO AS TO CONSERVE BATTERY STANDBY POWER, IT SHALL NOT BE LIT DURING AN AC POWER FAILURE UNLESS AN ALARM CONDITION OCCURS OR THERE SHOULD BE KEYPAD ACTIVITY.
  - C. THE CONTROL PANEL SHALL CONTAIN ALL NECESSARY HARDWARE AND SOFTWARE REQUIRED TO MONITOR A MINIMUM OF 250 ADDRESSABLE DEVICES AND MONITOR AND CONTROL FOUR (4) NOTIFICATION APPLIANCE CIRCUITS. IT SHALL CONTAIN A MINIMUM OF TWO (2) PROGRAMMABLE RELAY CIRCUITS AND SHALL CONTAIN THE CIRCUITRY TO OPERATE A SERIAL CONTROLLED REMOTE ANNUNCIATOR PANEL.

## 2.1 FIRE ALARM CONTROL PANEL

- A. WHERE SHOWN ON THE PLANS, PROVIDE AND INSTALL A SIMPLEX MODEL 4010-9101 FIRE ALARM CONTROL PANEL. CONSTRUCTION SHALL BE MODULAR WITH SOLID STATE MICROPROCESSOR BASED ELECTRONICS. IT SHALL DISPLAY ONLY THOSE PRIMARY CONTROLS AND DISPLAYS ESSENTIAL TO OPERATIONS DURING A FIRE ALARM CONDITION.
- B. THE CONTROL PANEL SHALL HAVE AN 80-CHARACTER LCD DISPLAY AND PERFORM ALL FUNCTIONS LISTED IN THIS SPECIFICATION. THE DISPLAY SHALL BE BACKLIT FOR ENHANCED READABILITY. SO AS TO CONSERVE BATTERY STANDBY POWER, IT SHALL NOT BE LIT DURING AN AC POWER FAILURE UNLESS AN ALARM CONDITION OCCURS OR THERE SHOULD BE KEYPAD ACTIVITY.
- C. THE CONTROL PANEL SHALL CONTAIN ALL NECESSARY HARDWARE AND SOFTWARE REQUIRED TO MONITOR A MINIMUM OF 250 ADDRESSABLE DEVICES AND MONITOR AND CONTROL FOUR (4) NOTIFICATION APPLIANCE CIRCUITS. IT SHALL CONTAIN A MINIMUM OF TWO (2) PROGRAMMABLE AUXILIARY RELAYS AND CONTAIN THE CIRCUITRY TO OPERATE A SERIAL CONTROLLED REMOTE ANNUNCIATOR PANEL.
- D. THE CONTROL PANEL SHALL INCLUDE AN INTEGRAL DIGITAL FIRE ALARM COMMUNICATING TRANSMITTER (DACT) TO TRANSMIT FIRE ALARM ACTIVATION TO AN OWNER-SELECTED CENTRAL MONITORING LOCATION. THE COMMUNICATOR SHALL BE UL 864 LISTED AS CONFORMING TO THE REQUIREMENTS OF NFPA 71. IT SHALL BE LISTED AS AN INTEGRAL COMPONENT WITH THE FIRE ALARM CONTROL PANEL. THE COMMUNICATOR SHALL SUPERVISE TWO (2) TWO TELEPHONE LINES AND BE CAPABLE OF SEIZING THE TELEPHONE LINE AND SENDING AN ALARM SIGNAL ON ONE OR BOTH LINES WITHOUT THE NEED OF ANY ADDITIONAL EQUIPMENT. THE COMMUNICATOR SHALL BE CAPABLE OF TRANSMITTING TO SILENT KNIGHT, RADIONICS OR ADEMCO RECEIVING STATIONS.
- 2.2 PERIPHERAL DEVICES
- A. MANUAL STATIONS: FURNISH AND INSTALL WHERE SHOWN ON THE DRAWINGS SIMPLEX TYPE 4099-9001 SINGLE ACTION ADDRESSABLE MANUAL PULL STATIONS.
- B. SMOKE SENSORS: FURNISH AND INSTALL SIMPLEX MODEL 4098-9710 TRUEALARM SMOKE SENSORS WHERE INDICATED ON DRAWINGS.
- C. WATERFLOW AND OS&Y MONITOR SWITCHES. WATERFLOW AND OS&Y MONITOR SWITCHES SHALL BE FURNISHED AND INSTALLED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS BUT SHALL BE WIRED AND CONNECTED TO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR.
- D. INDIVIDUAL ADDRESSABLE MODULE (IAM): FURNISH AND INSTALL SIMPLEX MODEL 4090-9001 INDIVIDUAL ADDRESSABLE MODULES AS REQUIRED. THE UNITS SHALL PROVIDE LOCATION SPECIFIC ADDRESSABILITY TO NON-ADDRESSABLE DEVICES SUCH AS WATERFLOW AND SPRINKLER TAMPER SWITCHES. FURNISHED BY OTHERS, BY MONITORING NORMALLY OPEN DRY CONTACTS.
- E. AUDIBLE/VISIBLE UNITS: FURNISH AND INSTALL WHERE SHOWN ON THE PLANS. SIMPLEX TYPE 4903-9416 SYNCHRONIZED AUDIBLE/VISIBLE UNITS. THE VISIBLE PORTION OF THE APPLIANCES SHALL PROVIDE 75 CD ILLUMINATION AND HAVE A FLASH RATE OF 1 HZ OVER THE ENTIRE OPERATING VOLTAGE RANGE AS REQUIRED BY THE AMERICANS WITH DISABILITIES ACT (ADA). 1975 CANDELA DEVICES WILL NOT BE CONSIDERED AS EQUAL. THE OUTPUT OF THE AUDIBLE PORTION OF TEN APPLIANCE SHALL BE RATED AT 91 DBA AT 10 FEET.

### 3.1 TRAINING AND WARRANTY

- A. PROVIDE THE SERVICES OF A FACTORY-EMPLOYED SERVICE REPRESENTATIVE TO DEMONSTRATE THE SYSTEM AND TRAIN OWNER'S MAINTENANCE PERSONELL AS SPECIFIED BELOW.

1. TRAIN OWNER'S MAINTENANCE PERSONNEL IN THE PROCEDURES AND SCHEDULES INVOLVED IN OPERATING, TROUBLESHOOTING, SERVICING, AND PREVENTATIVE MAINTAINING OF THE SYSTEM. PROVIDE A MINIMUM OF 4 HOUR'S TRAINING.
2. SCHEDULE TRAINING WITH OWNER AT LEAST SEVEN DAYS IN ADVANCE.

### 3.2 WARRANTY

- A. THE CONTRACTOR SHALL WARRANT THE COMPLETED FIRE ALARM SYSTEM WIRING AND EQUIPMENT TO BE FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF COMPLETED AND CERTIFIED TEST.
- B. THE EQUIPMENT MANUFACTURER SHALL MAKE AVAILABLE TO THE OWNER A MAINTENANCE CONTRAT PROPOSAL TO PROVIDE A MINIMUM OF TWO (2) INSPECTIONS AND TESTS PER YEAR IN COMPLIANCE WITH NFPA-72H GUIDELINES.








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D	<p>This detail has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. This detail is for reference only. Any reliance on this detail shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.</p> <p>2K. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.</p> <p><b>EB METAL INC</b> — NITROSTUD</p> <p>2L. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.</p> <p><b>OLMAR SUPPLY INC</b> — PRIMESTUD</p> <p>2M. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.</p> <p><b>MARINO/WARE, DIV OF WARE INDUSTRIES INC</b> — StudRite™</p> <p>2N. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.</p> <p><b>RESCUE METAL FRAMING, L L C</b> — AlphaSTUD</p> <p>2O. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.</p> <p><b>RONDO BUILDING SERVICES PTY LTD</b> — Rondo Lipped Wall Stud</p> <p>2P. <b>Framing Members* — Steel Studs</b> — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.</p> <p><b>OEG BUILDING MATERIALS</b> — OEG Stud</p> <p>2Q. <b>Framing Members* — Steel Studs</b> — Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.</p> <p><b>CALIFORNIA EXPANDED METAL PRODUCTS CO</b> — Viper X</p> <p>3. <b>Wood Structural Panel Sheathing</b> — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.</p> <p>4. <b>Batts and Blankets*</b> — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.</p> <p>See <b>Batts and Blankets</b> (BKNV or BZIJ) Categories for names of Classified companies.</p> <p>4A. <b>Batts and Blankets*</b> — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.</p> <p>See <b>Batts and Blankets</b> (BKNV or BZIJ) Categories for names of Classified companies.</p> <p>4B. <b>Fiber, Sprayed*</b> — (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See <b>Fiber, Sprayed</b> (CCA2).</p> <p><b>AMERICAN ROCKWOOL MANUFACTURING, LLC</b> — Type Rockwool Premium Plus</p> <p>5. <b>Gypsum Board*</b> — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:</p> <table><tr><th colspan="4">Gypsum Board Protection on Each Side of Wall</th></tr><tr><th>Rating, Hr</th><th>Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O</th><th>No. of Layers &amp; Thkns of Panel</th><th>Min Thkns of Insulation (Item 4)</th></tr><tr><td>1</td><td>3-1/2</td><td>1 layer, 5/8 in. thick</td><td>Optional</td></tr><tr><td>1</td><td>2-1/2</td><td>1 layer, 1/2 in. thick</td><td>1-1/2 in.</td></tr><tr><td>1</td><td>1-5/8</td><td>1 layer, 3/4 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>3-1/2</td><td>1 layer, 3/4 in. thick</td><td>3 in.</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>2 layers, 3/4 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>1-5/8</td><td>4 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>1-5/8</td><td>4 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>2-1/2</td><td>2 layers, 3/4 in. thick</td><td>2 in.</td></tr></table> <p><b>CGC INC</b> — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO</b> — 1/2 in. thick Type C and 5/8 in. thick Type SCX</p> <p><b>UNITED STATES GYPSUM CO</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE</p> <p><b>USG MEXICO S A DE C V</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p>When Item 7B, <b>Steel Framing Members*</b>, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.</p> <p>5A. <b>Gypsum Board*</b> — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.</p> <p><b>CGC INC</b> — Type SHX.</p> <p><b>UNITED STATES GYPSUM CO</b> — Type FRX-G, SHX.</p> <p><b>USG MEXICO S A DE C V</b> — Type SHX.</p> <p>5B. <b>Gypsum Board*</b> — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).</p> <p><b>RAY-BAR ENGINEERING CORP</b> — Type RB-LBG</p> <p>5C. <b>Gypsum Board*</b> — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.</p> <p><b>CGC INC</b> — Type SCX, ULIX.</p> <p><b>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO</b> — Type SCX</p> <p><b>UNITED STATES GYPSUM CO</b> — Type SCX, SGX, ULIX.</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — Type SCX</p> <p><b>USG MEXICO S A DE C V</b> — Type SCX</p> <p>5D. <b>Gypsum Board*</b> — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.</p> <p><b>CGC INC</b> — Type USGX.</p> <p><b>UNITED STATES GYPSUM CO</b> — Type USGX</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — Type USGX</p> <p><b>USG MEXICO S A DE C V</b> — Type USGX</p> <p>5E. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine drillr) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.</p> <p><b>NEW ENGLAND LEAD BURNING CO INC, DBA NELCO</b> — Nelco</p> <p>5F. <b>Gypsum Board*</b> — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity along opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.</p> <p><b>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO</b> — Type SCX</p> <p><b>UNITED STATES GYPSUM CO</b> — 5/8 in. thick Type SCX, SGX, ULIX</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — 5/8 in. thick Type SCX, SGX</p> <p>5G. <b>Gypsum Board*</b> — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:</p> <table><tr><th colspan="4">Gypsum Board Protection on Each Side of Wall</th></tr><tr><th>Rating, Hr</th><th>Min Stud Depth, in. Item 2E</th><th>No. of Layers &amp; Thickness of Panel</th><th>Min Thkns of Insulation (Item 4)</th></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>1-5/8</td><td>4 layers, 5/8 in. thick</td><td>Optional</td></tr></table> <p><b>CGC INC</b> — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO</b> — 1/2 in. thick Type C and 5/8 in. thick Type SCX</p> <p><b>UNITED STATES GYPSUM CO</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE</p> <p><b>USG MEXICO S A DE C V</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p>5H. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).</p> <p><b>MAYCO INDUSTRIES INC</b> — Type X-Ray Shielded Gypsum</p> <p>5I. <b>Gypsum Board*</b> — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.</p> <p><b>CGC INC</b> — Type ULIX, ULX</p> <p><b>UNITED STATES GYPSUM CO</b> — Type ULIX, ULX</p> <p><b>USG MEXICO S A DE C V</b> — Type ULX</p> <p>5J. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".</p> <p><b>RADIATION PROTECTION PRODUCTS INC</b> — Type RPP - Lead Lined Drywall</p> <p>6. <b>Fasteners</b> — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). <b>Single layer systems:</b> 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. <b>Single layer system with Type ULIX:</b> 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. <b>Two layer systems:</b> First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in. 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. <b>Three-layer systems:</b> First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. <b>Four-layer systems:</b> First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.</p> <p>7. <b>Furring Channels</b> — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.</p> <p>7A. <b>Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.</p> <p><b>PAC INTERNATIONAL L L C</b> — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).</p> <p>7B. <b>Framing Members*</b> — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.</p> <p><b>KINETICS NOISE CONTROL INC</b> — Type Isomax</p> <p>7C. <b>Framing Members*</b> — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.</p> <p><b>PLITEQ INC</b> — Type GENIECLIP</p>	Gypsum Board Protection on Each Side of Wall				Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)	1	3-1/2	1 layer, 5/8 in. thick	Optional	1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.	1	1-5/8	1 layer, 3/4 in. thick	Optional	2	1-5/8	2 layers, 1/2 in. thick	Optional	2	1-5/8	2 layers, 5/8 in. thick	Optional	2	3-1/2	1 layer, 3/4 in. thick	3 in.	3	1-5/8	3 layers, 1/2 in. thick	Optional	3	1-5/8	2 layers, 3/4 in. thick	Optional	3	1-5/8	3 layers, 5/8 in. thick	Optional	4	1-5/8	4 layers, 5/8 in. thick	Optional	4	1-5/8	4 layers, 1/2 in. thick	Optional	4	2-1/2	2 layers, 3/4 in. thick	2 in.	Gypsum Board Protection on Each Side of Wall				Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)	2	1-5/8	2 layers, 1/2 in. thick	Optional	2	1-5/8	2 layers, 5/8 in. thick	Optional	3	1-5/8	3 layers, 1/2 in. thick	Optional	3	1-5/8	3 layers, 5/8 in. thick	Optional	4	1-5/8	4 layers, 5/8 in. thick	Optional	
Gypsum Board Protection on Each Side of Wall																																																																																						
Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)																																																																																			
1	3-1/2	1 layer, 5/8 in. thick	Optional																																																																																			
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.																																																																																			
1	1-5/8	1 layer, 3/4 in. thick	Optional																																																																																			
2	1-5/8	2 layers, 1/2 in. thick	Optional																																																																																			
2	1-5/8	2 layers, 5/8 in. thick	Optional																																																																																			
2	3-1/2	1 layer, 3/4 in. thick	3 in.																																																																																			
3	1-5/8	3 layers, 1/2 in. thick	Optional																																																																																			
3	1-5/8	2 layers, 3/4 in. thick	Optional																																																																																			
3	1-5/8	3 layers, 5/8 in. thick	Optional																																																																																			
4	1-5/8	4 layers, 5/8 in. thick	Optional																																																																																			
4	1-5/8	4 layers, 1/2 in. thick	Optional																																																																																			
4	2-1/2	2 layers, 3/4 in. thick	2 in.																																																																																			
Gypsum Board Protection on Each Side of Wall																																																																																						
Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)																																																																																			
2	1-5/8	2 layers, 1/2 in. thick	Optional																																																																																			
2	1-5/8	2 layers, 5/8 in. thick	Optional																																																																																			
3	1-5/8	3 layers, 1/2 in. thick	Optional																																																																																			
3	1-5/8	3 layers, 5/8 in. thick	Optional																																																																																			
4	1-5/8	4 layers, 5/8 in. thick	Optional																																																																																			
C	<p>5H. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).</p> <p><b>MAYCO INDUSTRIES INC</b> — Type X-Ray Shielded Gypsum</p> <p>5I. <b>Gypsum Board*</b> — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.</p> <p><b>CGC INC</b> — Type ULIX, ULX</p> <p><b>UNITED STATES GYPSUM CO</b> — Type ULIX, ULX</p> <p><b>USG MEXICO S A DE C V</b> — Type ULX</p> <p>5J. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".</p> <p><b>RADIATION PROTECTION PRODUCTS INC</b> — Type RPP - Lead Lined Drywall</p> <p>6. <b>Fasteners</b> — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). <b>Single layer systems:</b> 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. <b>Single layer system with Type ULIX:</b> 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. <b>Two layer systems:</b> First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in. 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. <b>Three-layer systems:</b> First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. <b>Four-layer systems:</b> First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.</p> <p>7. <b>Furring Channels</b> — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.</p> <p>7A. <b>Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.</p> <p><b>PAC INTERNATIONAL L L C</b> — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).</p> <p>7B. <b>Framing Members*</b> — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.</p> <p><b>KINETICS NOISE CONTROL INC</b> — Type Isomax</p> <p>7C. <b>Framing Members*</b> — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.</p> <p><b>PLITEQ INC</b> — Type GENIECLIP</p>																																																																																					
B	<p>5. <b>Gypsum Board*</b> — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:</p> <table><tr><th colspan="4">Gypsum Board Protection on Each Side of Wall</th></tr><tr><th>Rating, Hr</th><th>Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O</th><th>No. of Layers &amp; Thkns of Panel</th><th>Min Thkns of Insulation (Item 4)</th></tr><tr><td>1</td><td>3-1/2</td><td>1 layer, 5/8 in. thick</td><td>Optional</td></tr><tr><td>1</td><td>2-1/2</td><td>1 layer, 1/2 in. thick</td><td>1-1/2 in.</td></tr><tr><td>1</td><td>1-5/8</td><td>1 layer, 3/4 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>1-5/8</td><td>2 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>2</td><td>3-1/2</td><td>1 layer, 3/4 in. thick</td><td>3 in.</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>2 layers, 3/4 in. thick</td><td>Optional</td></tr><tr><td>3</td><td>1-5/8</td><td>3 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>1-5/8</td><td>4 layers, 5/8 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>1-5/8</td><td>4 layers, 1/2 in. thick</td><td>Optional</td></tr><tr><td>4</td><td>2-1/2</td><td>2 layers, 3/4 in. thick</td><td>2 in.</td></tr></table> <p><b>CGC INC</b> — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO</b> — 1/2 in. thick Type C and 5/8 in. thick Type SCX</p> <p><b>UNITED STATES GYPSUM CO</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p><b>USG BORAL DRYWALL SFZ LLC</b> — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE</p> <p><b>USG MEXICO S A DE C V</b> — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE</p> <p>5H. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).</p> <p><b>MAYCO INDUSTRIES INC</b> — Type X-Ray Shielded Gypsum</p> <p>5I. <b>Gypsum Board*</b> — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.</p> <p><b>CGC INC</b> — Type ULIX, ULX</p> <p><b>UNITED STATES GYPSUM CO</b> — Type ULIX, ULX</p> <p><b>USG MEXICO S A DE C V</b> — Type ULX</p> <p>5J. <b>Gypsum Board*</b> — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in. thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at</p>	Gypsum Board Protection on Each Side of Wall				Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)	1	3-1/2	1 layer, 5/8 in. thick	Optional	1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.	1	1-5/8	1 layer, 3/4 in. thick	Optional	2	1-5/8	2 layers, 1/2 in. thick	Optional	2	1-5/8	2 layers, 5/8 in. thick	Optional	2	3-1/2	1 layer, 3/4 in. thick	3 in.	3	1-5/8	3 layers, 1/2 in. thick	Optional	3	1-5/8	2 layers, 3/4 in. thick	Optional	3	1-5/8	3 layers, 5/8 in. thick	Optional	4	1-5/8	4 layers, 5/8 in. thick	Optional	4	1-5/8	4 layers, 1/2 in. thick	Optional	4	2-1/2	2 layers, 3/4 in. thick	2 in.																													
Gypsum Board Protection on Each Side of Wall																																																																																						
Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)																																																																																			
1	3-1/2	1 layer, 5/8 in. thick	Optional																																																																																			
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.																																																																																			
1	1-5/8	1 layer, 3/4 in. thick	Optional																																																																																			
2	1-5/8	2 layers, 1/2 in. thick	Optional																																																																																			
2	1-5/8	2 layers, 5/8 in. thick	Optional																																																																																			
2	3-1/2	1 layer, 3/4 in. thick	3 in.																																																																																			
3	1-5/8	3 layers, 1/2 in. thick	Optional																																																																																			
3	1-5/8	2 layers, 3/4 in. thick	Optional																																																																																			
3	1-5/8	3 layers, 5/8 in. thick	Optional																																																																																			
4	1-5/8	4 layers, 5/8 in. thick	Optional																																																																																			
4	1-5/8	4 layers, 1/2 in. thick	Optional																																																																																			
4	2-1/2	2 layers, 3/4 in. thick	2 in.																																																																																			

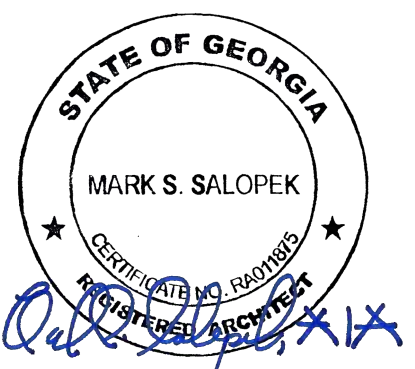


	1	2	3	4	5
D	<p>7D. <b>Steel Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips</p> <p><b>STUDCO BUILDING SYSTEMS</b> — RESILMOUNT Sound Isolation Clips - Type A237 or A237R</p>	<p><b>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</b></p> <p><small>Last Updated on 2020-08-05</small></p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.</p> <p>UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2020 UL LLC"</p>	<p>UL Product iQ™</p> <p>XHEZ.W-L-1041 - Through-penetration Firestop Systems</p> <p>Design/System/Construction/Assembly Usage Disclaimer</p> <ul style="list-style-type: none"><li>• Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.</li><li>• Authorities Having Jurisdiction should be consulted before construction.</li><li>• Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.</li><li>• When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.</li><li>• Only products which bear UL's Mark are considered Certified.</li></ul>		
C	<p>7E. <b>Steel Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.</p> <p><b>REGUPOL AMERICA</b> — Type SonusClip</p>				
	<p>7F. <b>Steel Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:</p> <p>a. <b>Resilient Channels</b> — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.</p> <p><b>KEENE BUILDING PRODUCTS CO INC</b> — Type RC+ Assurance Clip</p>				
	<p>7G. <b>Framing Members*</b> — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:</p> <p>a. <b>Furring Channels</b> — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.</p> <p>b. <b>Steel Framing Members*</b> — Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.</p> <p><b>CLARKDIETRICH BUILDING SYSTEMS</b> — Type ClarkDietrich Sound Clip</p>				
	<p>8. <b>Joint Tape and Compound</b> — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.</p>				
	<p>9. <b>Siding, Brick or Stucco</b> — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.</p>				
	<p>10. <b>Caulking and Sealants*</b> — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.</p> <p><b>UNITED STATES GYPSUM CO</b> — Type AS</p>				
B	<p>11. <b>Lead Batten Strips</b> — (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 2 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.</p> <p>11A. <b>Lead Batten Strips</b> — (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.</p> <p>12. <b>Lead Discs or Tabs</b> — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".</p> <p>12A. <b>Lead Discs</b> — (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".</p> <p>13. <b>Lead Batten Strips</b> — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.</p> <p>14. <b>Lead Tabs</b> — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.</p> <p>15. <b>Barrier Mesh</b> — (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.</p> <p><b>CLARKDIETRICH BUILDING SYSTEMS</b> — Barrier Mesh, Barrier Mesh Clips</p>				
A				<p><b>* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.</b></p> <p><small>Last Updated on 2014-08-22</small></p> <p>The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.</p> <p>UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2020 UL LLC"</p>	



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REV.	DATE	DESCRIPTION



08/27/2021

MARIETTA HWY & I-575  
5068 MARIETTA HIGHWAY  
CANTON, GA 30114

UL DETAILS

	DATE
ISSUED FOR CONSTRUCTION	
BID	
PROJECT MANAGER	DESIGNER
AK	DB

JOB NO.  
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